

KV-27V10/27V15

RM-Y117 RM-Y121/RM-CM101

KV-29V10C/29V10M/32V15

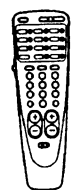
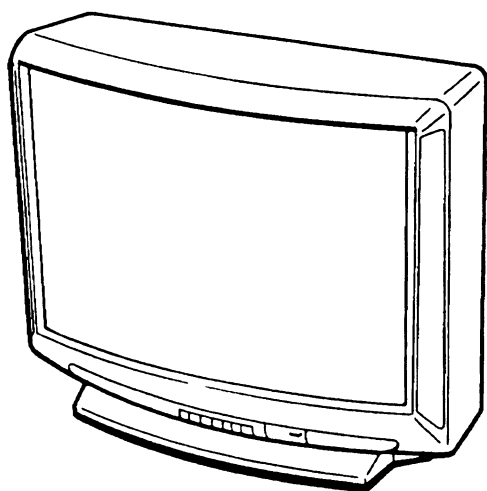
RM-Y117

RM-Y117

RM-Y121

RM-CM101

SERVICE MANUAL



RM-Y121 RM-Y117 RM-CM101

US Model

KV-27V10 Chassis No. SCC-F84Q-A

KV-27V15 Chassis No. SCC-F84R-A

KV-32V15 Chassis No. SCC-F84S-A

Canadian Model

KV-27V10 Chassis No. SCC-F85L-A

KV-27V15 Chassis No. SCC-F85M-A

KV-32V15 Chassis No. SCC-F85N-A

WP Model

KV-29V10C Chassis No. SCC-G49A-A

E Model

KV-29V10M Chassis No. SCC-F89H-A

AA-1 CHASSIS

MODELS OF THE SAME SERIES

KV-27V10/27V15	KV-27S10/27S15/29RS10
KV-29V10C/29V10M/32V15	KV-29RS15/32S10/32S15
KV-27V55/29V55M	KV-2970RS/2970M/2975M

SPECIFICATIONS

Television system
Channel coverage

American TV standards

VHF: 2-13

UHF: 14-69

CABLE TV: 1-125

Picture tube

Hi-Black™ Trinitron® tube

(KV-27V10/27V15/29V10C/29V10M)

27-inch picture measured diagonally

29-inch picture measured diagonally

(KV-32V15)

32-inch picture measured diagonally

Antenna 75-ohm external antenna terminal for VHF/UHF

- Continued on next page -



TRINITRON® COLOR TV
SONY®

Input

VIDEO and S VIDEO
S VIDEO IN
 Y: 1 Vp-p, 75-ohms unbalanced,
 sync negative
 C: 0.286 Vp-p (Burst signal),
 75-ohms
 Video : 1 Vp-p, 75-ohms
 unbalanced, sync negative
 Audio : 500 mVrms
 (100% modulation)
 Impedance: 47 kilo-ohms

Output

AUDIO OUT :
 More than 408 mVrms at the
 maximum volume setting (variable)
 More than 408 mVrms (fix)
 Impedances : 5 kilo-ohms
 (KV-27S15/29RS15/32S15)

Speaker output 5W×2
Power requirements 120 V AC, 60Hz
Power consumption

Model number	When in use	In standby mode
KV-27V10	165 W	6 W
KV-27V15	170 W	6.5 W
KV-29V10C	160 W	9 W
KV-29V10M	165 W	6 W
KV-32V15	205 W	6.5 W

Dimensions/Weight

	Dimensions (w/h/d)	Weight
KV-27V10	664×572×513 mm (26 ¹ / ₄ ×23 ⁵ / ₈ ×20 ¹ / ₄ inches)	42.9 kg (94 lbs)
KV-27V15	664×572×513 mm (26 ¹ / ₄ ×23 ⁵ / ₈ ×20 ¹ / ₄ inches)	43 kg (94 lbs 13 oz)
KV-29V10C	664×572×513 mm (26 ¹ / ₄ ×23 ⁵ / ₈ ×20 ¹ / ₄ inches)	42.9 kg (94 lbs)
KV-29V10M	664×572×513 mm (26 ¹ / ₄ ×23 ⁵ / ₈ ×20 ¹ / ₄ inches)	42.9 kg (94 lbs)
KV-32V15	801×664×603 mm (31 ⁵ / ₈ ×26 ¹ / ₄ ×23 ³ / ₄ inches)	70 kg (154 lbs 2 oz)

Supplied accessories (KV-27V10/29V10C/29V10M)
 Remote Commander RM-Y117 (1)
 with 2 size AA (R6) batteries
 (KV-27V15/32V15)
 Remote Commander RM-Y121 (1)
 with 1 size AA (R6) battery
 RM-CM101

Optional accessories U/V mixer EAC-66
 Connecting cable
 VMC-810S/820S, VMC-720M,
 YC-15V/30V, RK-74A

Design and specifications are subject to change without notice.

(CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
 THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK Δ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

(ATTENTION)

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHASSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISE LORS DE TOUT DEPANNAGE.
 LE CHASSIS DE CE RECEPTEUR EST DIRECTEMENT RACCORDE A L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET PAR UNE MAPQUE Δ SUR LES SCHEMAS DE PRINCIPE, LES VUES EXPLOSEES ET LES LISTES DE PIECES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMERO DE PIECE EST INDIQUE DANS LE PRESENT MANUEL OU DANS DES SUPPLEMENTS PUBLIES PAR SONY. LES REGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRESENT MANUEL. SUIVRE CES PROCEDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTE.

SAFETY CHECK-OUT (US model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer :

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate ; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground ; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

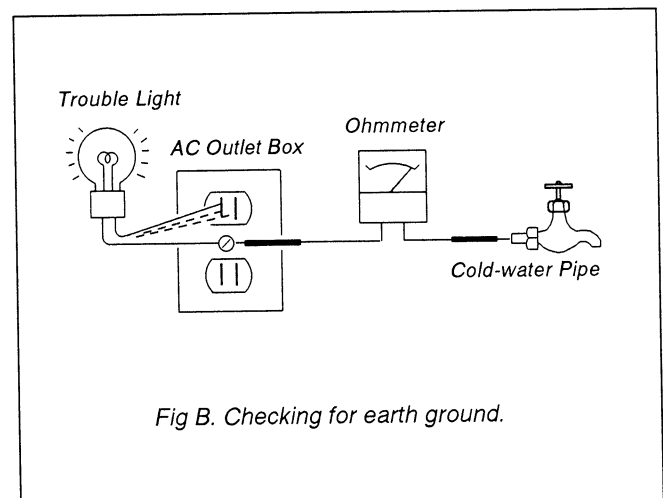
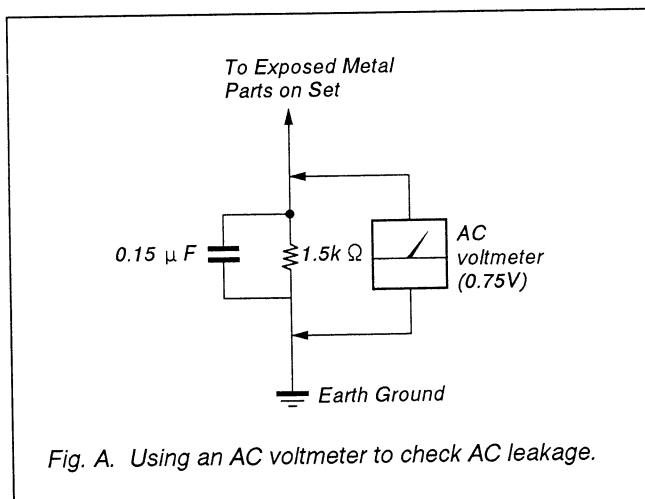


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SECTION 1 GENERAL

• KV-27V10/29V10C/29V10M

Step 1: Hookup

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

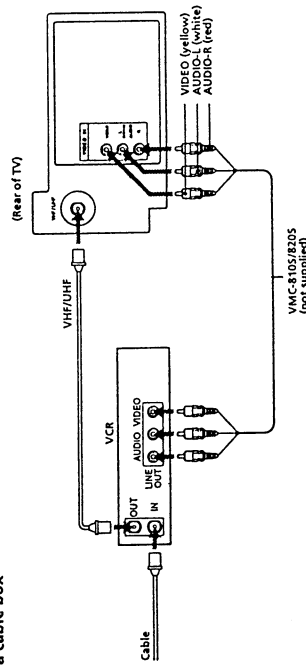
Connecting an antenna/cable TV system with a VCR

To connect your VCR to the TV, first check the model number of your TV and select the corresponding connection. For details on connection, see the instruction manual of your VCR. Before making connection, disconnect the AC power cords of the equipment to be connected.

After making these connections, you will be able to do the following:

- View the playback of video tapes
- Record one TV program while viewing another program

Without a cable box



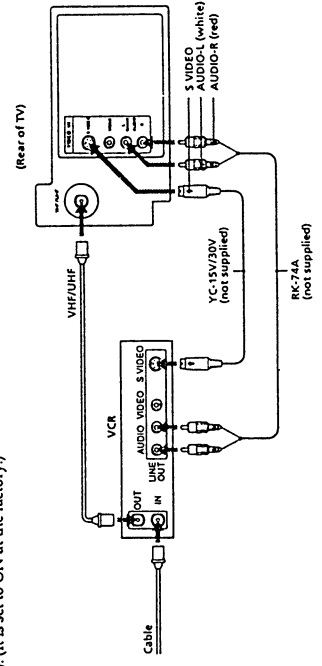
Note

- To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 1 IN on the TV.

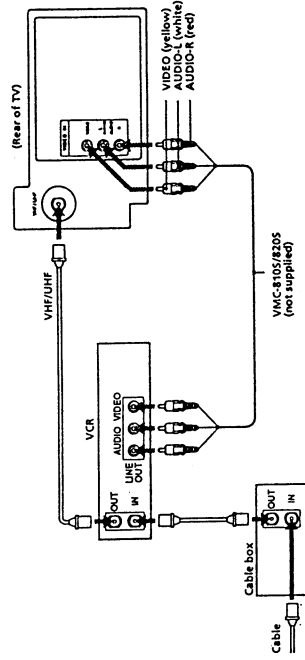
To an S video equipped VCR without a cable box

■ KV-27V10/29V10C/29V10M/32S10 only

If your VCR has an S video output jack, hook up as follows and then set S VIDEO to ON on your TV (page 12). (It is set to ON at the factory.)



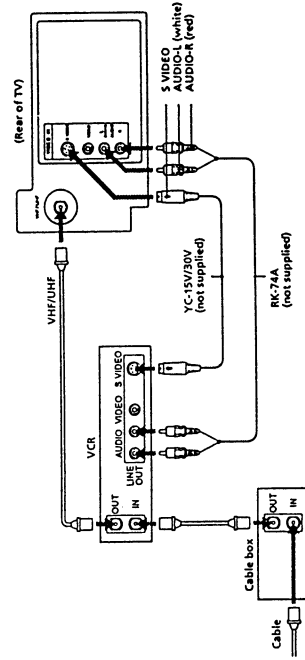
With a cable box



Note

- To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 1 IN on the TV.

To an S video equipped VCR with a cable box



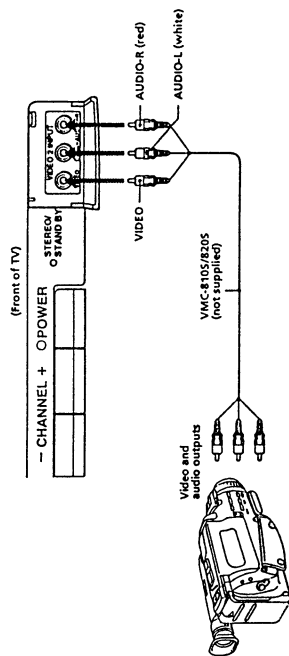
Note

- Video signals are composed of Y (luminance) and C (chroma) signals. The S connection sends the two signals separately preventing degradation, and gives better picture quality compared to conventional connection.

Connecting a camcorder

- KV-27V10/29V10C/29V10M only

This connection is convenient for viewing a camcorder.



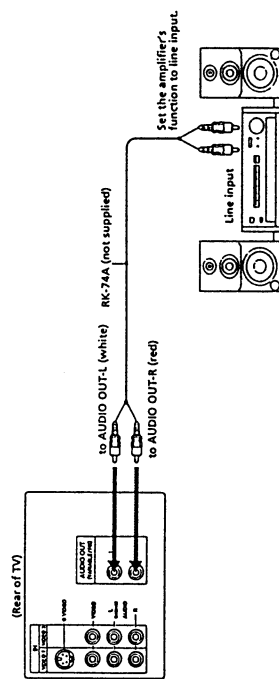
Note

- To connect a monaural camcorder, connect the audio output of the VCR to AUDIO-L (mono) or VIDEO 2 INPUT on the TV.

Connecting an audio system

- KV-27V10/29V10C/29V10M only

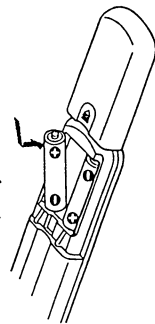
When connecting audio equipment, see page 17 and 18 for more information.



Step 2: Setting up the remote commander

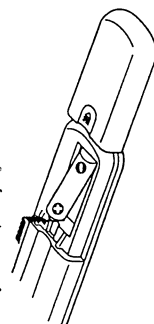
- KV-27S10/29S10C/32S10 RM-Y116 remote commander

Insert two size AA (R6) batteries in correct polarity.



- KV-27V10/29V10C/29V10M RM-Y117 remote commander

Insert a size AA (R6) battery in correct polarity.



Notes

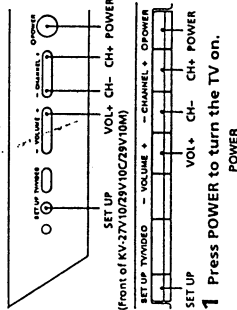
- With normal use, the battery should last for approximately six months.
- If you do not use the remote commander for an extended period of time, remove the battery to avoid possible damage from battery leakage.
- Do not handle the remote commander roughly. Do not drop it or let it get wet.
- Do not place the remote commander in locations where it is direct sunlight, near a heater, or where the humidity is high.

Step 3: Setting up the TV automatically (AUTO SET UP)

You can set up your TV easily by using AUTO SET UP feature. It presets all the receivable channels. To set up the TV manually, see "Setting cable TV on or off" and "Presetting channels" (page 11).

If the TV is set to a video input, you cannot execute AUTO SET UP. Press TV/VIDEO so that a channel number appears.

(Front of KV-27S10/29S10C/32S10)

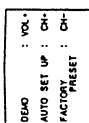


1 Press POWER to turn the TV on.

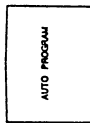


2 Press SET UP on the front of the TV.

The menu appears.



3 Press CH +.



"AUTO PROGRAM" appears on the screen and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, "AUTO PROGRAM" disappears and the lowest numbered channel is displayed. If the TV receives cable TV channels, CATV is set to ON automatically.

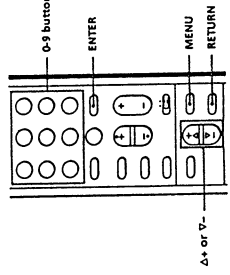
Note

- If more than 90 seconds elapse after you press a button, the menu disappears automatically.

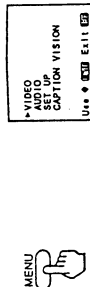
DEMO: To browse the main functions, Press VOL+ in step3. The functions and menus a displayed one by one.
FACTORY PRESET: To restore the factory settings when you are confused about the TV settings. Press CH- in step3. The settings of picture and sound are restored to the factory setting.

Erasing or adding channels

After AUTO SET UP you can erase unnecessary channels or add the channels you want. Preset channels during the day rather than late at night, when some channels may not be broadcasting.



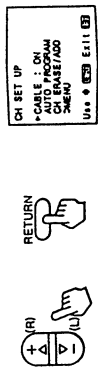
1 Press MENU.
 The main menu appears.



2 Press Delta+ or Delta- to select SET UP and press RETURN.
 The SET UP menu appears.



3 Press Delta+ or Delta- to select CH SET UP and press RETURN.
 The CH SET UP menu appears.

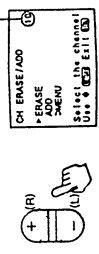


4 Press Delta+ or Delta- to select CH ERASE/ADD and press RETURN.
 The CH ERASE/ADD menu appears.



5 Erase and/or add the channel you want:

- To erase an unwanted channel:
 (1) Make sure the cursor (P) is beside ERASE.
 (2) Press CH +/- to select the channel you want to erase and,

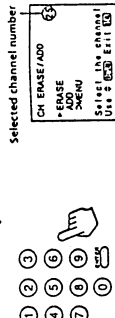


(3) press RETURN.
 The indication "..." appears beside the channel number, showing that the channel is erased from the preset memory.



To add a channel that you want

- Press Delta+ or Delta- to select ADD.
- Press the 0-9 buttons to select the channel you want to add and press ENTER and,



(3) press RETURN.
 The indication "..." appears beside the channel number, showing that the channel is added to the preset memory.



6 To erase and/or add other channels, repeat step 5.

7 When you finish, press MENU.



Note

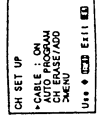
- If you erase or add a VHF or UHF channel, the cable TV channel with the same number is also erased or added, and vice versa.

Setting cable TV on or off

If you have connected the TV to a cable TV system, set CABLE to ON, the factory setting. If not, set CABLE to OFF.

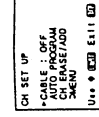
You do not have to do this procedure if you execute AUTO SET UP (page 9). Do this procedure only when you want to set it manually.

- Press MENU.
- Press Delta+ or Delta- to move the cursor (P) to SET UP and press RETURN.
- Press Delta+ or Delta- to move the cursor (P) to CH SET UP and press RETURN.



4 Set CABLE to ON or OFF:

- Make sure the cursor (P) is beside CABLE and press RETURN.
 If the cursor is not beside CABLE, press Delta+ or Delta- to move the cursor and press RETURN.
- Press Delta+ or Delta- to select ON or OFF and, (3) press RETURN.



5 Press MENU to return to the original screen.

Note

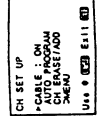
- If CH SET UP menu appears in black, the TV is set to a video input and you cannot select CABLE. Press TV/VIDEO so that a channel number appears.

Presetting channels

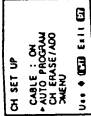
You can preset TV channels easily by AUTO PROGRAM feature.

You do not have to do this procedure if you execute AUTO SET UP (page 9). Do this procedure only when you want to set it manually.

- Press MENU.
- Press Delta+ or Delta- to move the cursor (P) to SET UP and press RETURN.
- Press Delta+ or Delta- to move the cursor (P) to CH SET UP and press RETURN.



4 Press Delta+ or Delta- to move the cursor (P) to AUTO PROGRAM and press RETURN.



"AUTO PROGRAM" appears on the screen and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, "AUTO PROGRAM" disappears and the lowest numbered channel is displayed.

5 Press MENU to return to the original screen.

Note

- If the CH SET UP menu appears in black, the TV is set to a video input and you cannot select AUTO PROGRAM. Press TV/VIDEO or TV so that a channel number appears.

Setting S video on or off

■ KV-27V10I29V10C/29V10M/32S10 only

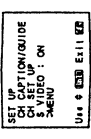
You can change the S VIDEO menu to ON or OFF.

1 Press TV/VIDEO select VIDEO 1.

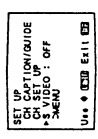
2 Press MENU.

3 Press Δ+ or ∇- to move the cursor (▶) to SET UP and press RETURN.

4 Press Δ+ or ∇- to move the cursor (▶) to S VIDEO and press RETURN.



5 Press Δ+ or ∇- to select ON or OFF and press RETURN.



6 Press MENU to return to the original screen.

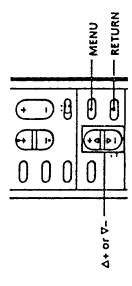
Note

- If S VIDEO appears in black, set a video input to VIDEO 1.
- If you set S VIDEO to ON, the TV automatically receive S video signals whenever a VCR with S video is connected.

Changing the menu language

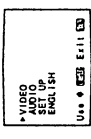
■ KV-29R510I29V10C/29V10M only

If you prefer Spanish to English, you can change the menu language.

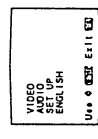


1 Press MENU.

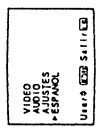
The main menu appears.



2 Press Δ+ or ∇- to move the cursor (▶) to ENGLISH and press RETURN.



3 Press Δ+ or ∇- to select ESPAÑOL and press RETURN.



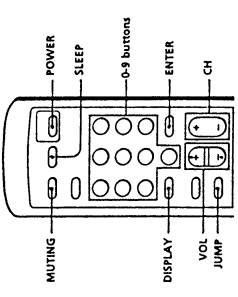
4 Press MENU to return to the original screen.

Note

- Certain parts of the ESPAÑOL menus remain in English.

Operations

Watching the TV



1 Press POWER to turn the TV on.

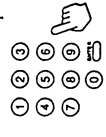


If "VIDEO" appears on the screen, press the TV/VIDEO button so that a channel number appears.

2 Select the channel you want:

To select a channel directly

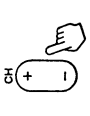
Press the 0-9 buttons and then press ENTER.



The channel can also be selected without pressing ENTER.

To scan through channels

Press CH +/- until the channel you want appears.



3 Press VOL +/- to adjust the volume.



Note

- Set the CABLE BOX/TV selector to TV. (KV-27V10I29V10C/29V10M only)

Switching quickly between two channels

Press JUMP.

The channel you watched previously appears.



Pressing JUMP again switches back the channel.

Muting the sound

Press MUTING.

"MUTING" appears on the screen.



To restore the sound, press MUTING again, or press VOL +.

Displaying on-screen information

Use this feature to check the channel number, channel caption (if set), and MTS mode (if SAP is selected). Press DISPLAY.



To cancel the display, press DISPLAY again.

Setting the Sleep Timer

The TV stays on for the length of time you specify and then shuts off automatically.

Press SLEEP repeatedly until the time (minutes) you want appears.

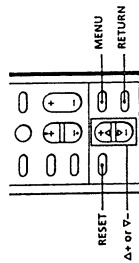
Each time you press SLEEP, the time changes as follows: 30 → 60 → 90 → OFF.



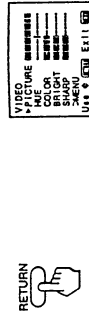
To cancel the Sleep Timer, press SLEEP repeatedly until "SLEEP OFF" appears, or turn the TV off.

Adjusting the picture (VIDEO)

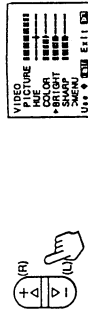
When watching TV programs, you can adjust the quality of the picture to suit your taste. You can adjust the picture of video input(s) as well. These settings are stored separately from those for the TV picture.



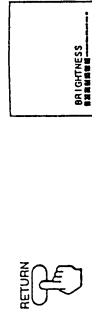
- 1 Press MENU.
- 2 Make sure the cursor (P) is beside VIDEO and press RETURN.



- 3 Select the item you want to adjust. For example: (1) To adjust brightness, press Δ+ or V- to select BRIGHT and,

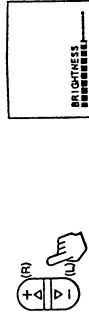


- (2) press RETURN.



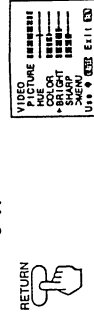
- 4 Adjust the selected item:

(1) Press Δ+ or V- to adjust the item and,



- (2) press RETURN.

The new setting appears in the VIDEO menu.



For details on each item, see "Description of adjustable items" below.

- 5 To adjust other items, repeat steps 3 and 4.

Description of adjustable items

Item	Press Δ+ to	Press V- to
PICTURE	Increase picture contrast and give vivid color	Decrease picture contrast and give soft color
HUE	Make skin tones become greenish	Make skin tones become purplish
COLOR	Increase color intensity	Decrease color intensity
BRIGHT	Brighten the picture	Darken the picture
SHARP	Sharpen the picture	Soften the picture

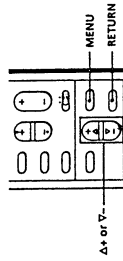
To restore the factory settings

Press RESET while the VIDEO menu is displayed. All the settings are restored to the factory settings.

Adjusting screen brightness automatically (LUMISPONDER)

■ KV-27V10/29V10C/29V10M only

The LUMISPONDER feature adjusts the brightness of the screen automatically according to the ambient brightness. The LUMISPONDER function automatically adjusts the level set by the user in the VIDEO menu to the standard.



- 1 Press MENU.
- 2 Press Δ+ or V- to select VIDEO and press RETURN.

- 3 Press Δ+ or V- to select LUMISPONDER and press RETURN.



- 4 Press Δ+ or V- to select ON or OFF and press RETURN.



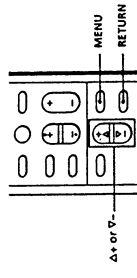
- (2) press RETURN.



Adjusting the sound (AUDIO)

You can adjust the quality of the sound to suit your taste.

You can adjust the sound of video input(s) as well. These settings are stored separately from those for the TV sound.



- 1 Press MENU.

- 2 Press Δ+ or V- to select AUDIO and press RETURN.



- 3 Select the item you want to adjust.

For example: (1) To adjust bass, press Δ+ or V- to select BASS and,



- (2) press RETURN.



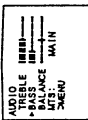
4 Adjust the selected item:

- (1) Press Δ or ∇ to adjust the item and,



- (2) press RETURN.

The new setting appears in the AUDIO menu.



For details on each item, see "Description of adjustable items" below.

5 To adjust other items, repeat steps 3 and 4 above.

Item	Press Δ to	Press ∇ to
TREBLE	Increase the treble response	Decrease the treble response
BASS	Increase the bass response	Decrease the bass response
BALANCE	Emphasize the right speaker's volume	Emphasize the left speaker's volume

To restore the factory settings

Press RESET while the AUDIO menu is displayed.

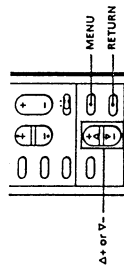
Note

- When SPEAKER (page 17) is OFF and AUDIO OUT (page 18) is FIXED condition, sound menu appears mid-level setting and it cannot be adjusted.

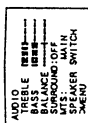
Listening to surround sound (SURROUND)

KV-27V1029V10C129V10M only

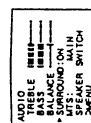
SURROUND feature simulate sound reproduction with the atmosphere of a movie theater or a concert hall. Surround sound is only effective for stereo programs.



- 1 Press MENU.
- 2 Press Δ or ∇ to select AUDIO and press RETURN.
- 3 Press Δ or ∇ to select SURROUND and press RETURN.

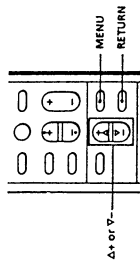


- 4 Press Δ or ∇ to select ON and press RETURN.

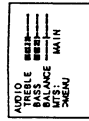


Selecting stereo or bilingual programs (MTS)

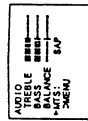
The Multichannel TV Sound (MTS) feature allows you to enjoy stereo sound or Second Audio Programs (SAP) at your choice. The initial setting is stereo sound (MAIN).



- 1 Press MENU.
- 2 Press Δ or ∇ to select AUDIO and press RETURN.
- 3 Press Δ or ∇ to select MTS and press RETURN.



- 4 Press Δ or ∇ to select MAIN, SAP, or MONO and press RETURN.



Choose	To
MAIN	Listen to stereo sound. The STEREO indicator on the TV lights up while a stereo broadcast is received.
SAP	Listen to bilingual programs. The sound of non-SAP programs will be muted when SAP is selected.
MONO	Reduce noise during stereo broadcasts.

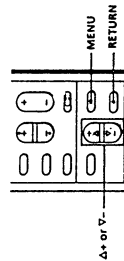
Note

- Stereo and SAP sounds are subject to program sources.

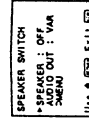
Setting the speaker switch (SPEAKER)

KV-27V1029V10C129V10M only

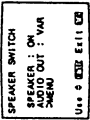
You may switch off the TV speakers when, for example, you want to listen to the sound through a stereo system.



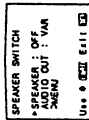
- 1 Press MENU.
- 2 Press Δ or ∇ to select AUDIO and press RETURN.
- 3 Press Δ or ∇ to select SPEAKER SWITCH and press RETURN.



- 4 Make sure the cursor (>) is beside SPEAKER and press RETURN.



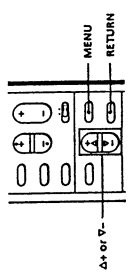
- 5 Press Δ or ∇ to select ON or OFF and press RETURN.



Setting audio out (AUDIO OUT)

■ KV-27V1029V10C/29V10M only

You can select audio out to variable or fixed when SPEAKER is set to OFF. Audio out is variable when SPEAKER is set to ON.



1 Press MENU.

2 Press Δ + or ∇ - to select AUDIO and press RETURN.

3 Press Δ + or ∇ - to select SPEAKER SWITCH and press RETURN.



4 Press Δ + or ∇ - to select AUDIO OUT and press RETURN.



5 Press Δ + or ∇ - to select VAR or FIXED and press RETURN.

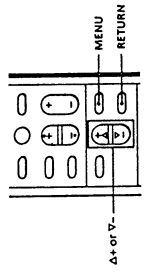


VAR: Sound output varied according to the TV settings. You can adjust the volume, bass, treble and balance.
FIXED: Sound output is always fixed to a certain level.
 You cannot adjust the volume.

Customizing the channel number buttons (CH CAPTION/ GUIDE)

You can choose up to 12 channels, caption each channel, and assign a specific channel number button to each channel. This feature allows you to select your favorite channels easily by name. For example, you can name channel 20 "ESPN," and assign the channel number 4 button to it.

Setting captions to favorite channels



1 Press TV/VIDEO to select TV mode.

2 Press MENU.

3 Press Δ + or ∇ - to select SET UP and press RETURN.

4 Press Δ + or ∇ - to select CH CAPTION/ GUIDE and press RETURN.



5 Press RETURN again.



6 Press Δ + or ∇ - to select a channel guide number button and press RETURN.

Each time you press Δ + or ∇ -, the channel numbers change to red in turns. The channel number button you select will be the one you press to call up your favorite channel.

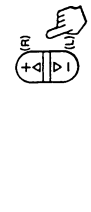


7 Press Δ + or ∇ - to select the channel that you want to caption and press RETURN.



8 Enter the letters (up to four) to caption the channel:

(1) Press Δ + or ∇ - to select the first letter. Each time you press Δ + or ∇ -, the letter changes as shown below and,



(2) press RETURN.



(3) Repeat steps (1) and (2) to select the remaining letters and press RETURN.



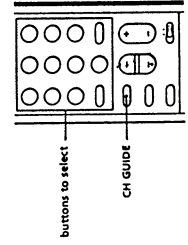
9 Repeat step 5 to 7 to caption other channels.

To erase a caption Press RESET after step 5.

Notes

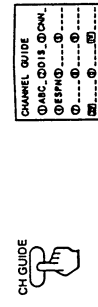
- The position number you already selected appears in yellow.
- If the CH CAPTION/ GUIDE menu appears in black, the TV is set to a video input and you cannot select CH CAPTION/ GUIDE.
- Press TV/VIDEO to select TV mode.
- If more than 90 seconds elapse after you press a button, the menu disappear automatically.

Selecting a captioned channel



1 Press CH GUIDE.

The CHANNEL GUIDE menu appears showing channel captions and the corresponding channel number buttons.



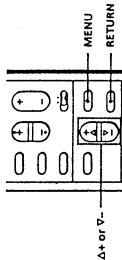
2 Press a channel number button, the DISPLAY or ENTER button to select the channel you want.

To cancel the CHANNEL GUIDE menu Press CH GUIDE again.

Setting video labels (VIDEO LABEL)

■ KV-27V1029V10C29V10M only

This feature allows you to label each input mode so that you can easily identify the connected equipment. For example, you can label VIDEO 1 IN as VHS.



- 1 Press MENU.
- 2 Press $\Delta+$ or $\Delta-$ to select SET UP and press RETURN.
- 3 Press $\Delta+$ or $\Delta-$ to select VIDEO LABEL and press RETURN.



- 4 Press $\Delta+$ or $\Delta-$ to select the input mode you want to label and press RETURN.



- 5 Press $\Delta+$ or $\Delta-$ to select the label and press RETURN.



Each time you press $\Delta+$ or $\Delta-$, the label changes as shown below.

VIDEO 1
VIDEO 1 \rightarrow S VIDEO \rightarrow BETA \rightarrow 8 mm \rightarrow VHS \rightarrow LD
VIDEO 2
VIDEO 2 \rightarrow BETA \rightarrow 8 mm \rightarrow VHS \rightarrow LD
VIDEO 3
VIDEO 3 \rightarrow BETA \rightarrow 8 mm \rightarrow VHS \rightarrow LD

- 6 Repeat steps 4 and 5 to label other input modes.

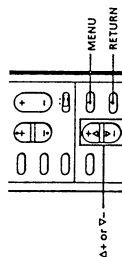
Note

- If more than 90 seconds elapse after you press a button, the menu disappears automatically.

Displaying Caption Vision (CAPTION VISION)

■ KV-27S1027V10I32S10 only

Some source programs provide with Caption Vision (Closed Caption). To display Caption Vision, select either CC1, CC2, TEXT1, or TEXT2 from the menu. CC1 or CC2 shows you a caption, that is a printed version of the dialog or sound effects of a program. (The mode should be set to CC1 for most programs.) TEXT1 or TEXT2 shows you text, that is information presented using half to full of the screen. It is not usually related to the program.



- 1 Press MENU.
- 2 Press $\Delta+$ or $\Delta-$ to select CAPTION VISION and press RETURN.



- 3 Press $\Delta+$ or $\Delta-$ to select the caption type and press RETURN.



Note

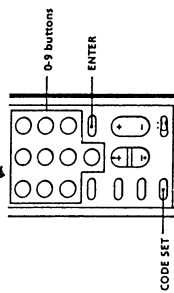
- Captions may appear with a white box or another error instead of a certain word. Poor reception of TV programs can also cause errors in Caption Vision.

Operating video equipment

■ KV-27V1029V10C29V10M only

You can operate video equipment that has an infrared remote sensor with the supplied remote commander. For the operations, set the manufacturer's code number.

Setting the manufacturer's code



While pressing CODE SET, press 0-9 to enter the manufacturer's code number (see the chart on the next page). For example, to operate a Sony 8 mm VCR, press 0, 2 and ENTER.

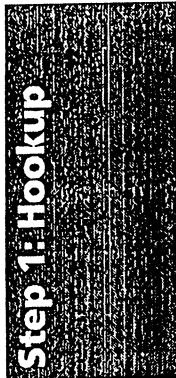


The code numbers for Sony equipment are assigned as follows:

01 Beta, ED Beta VCR
02 8 mm VCR
03 VHS VCR (Factory setting)
04 MDP

● KV-27V15/32V15

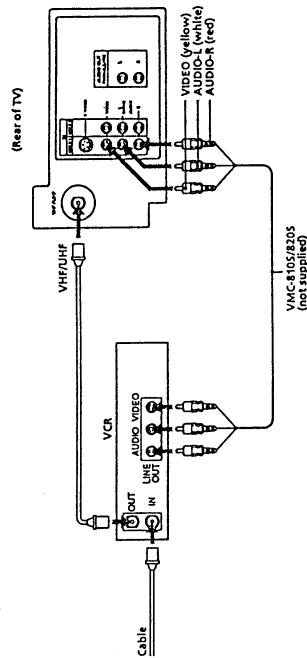
Step 1: Hookup



Connecting an antenna/cable TV system with a VCR

To connect your VCR to the TV, first check the model number of your TV and select the corresponding connection. For details on connection, see the instruction manual of your VCR. Before making connection, disconnect the AC power cords of the equipment to be connected.

Without a cable box

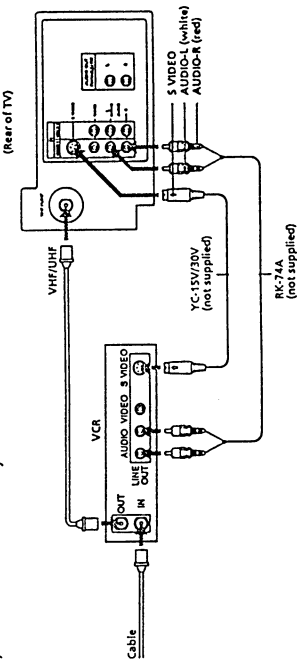


Note

- To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 1 IN on the TV.

To an S video equipped VCR without a cable box

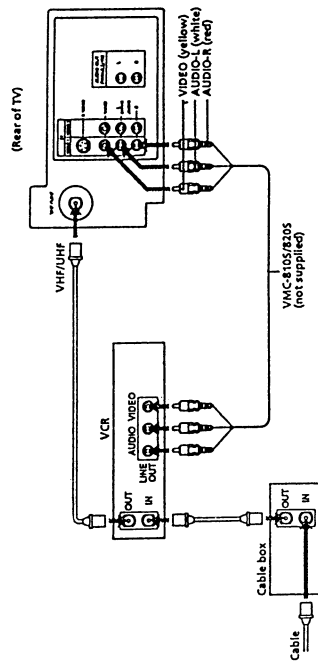
If your VCR has an S video output jack, hook up as follows and then set S VIDEO to ON on your TV (page 12). It is set to ON at the factory.



After making these connections, you will be able to do the following:

- View the playback of video tapes
- Record one TV program while viewing another Program
- Watch two TV programs at once using a window Picture (Picture in Picture)

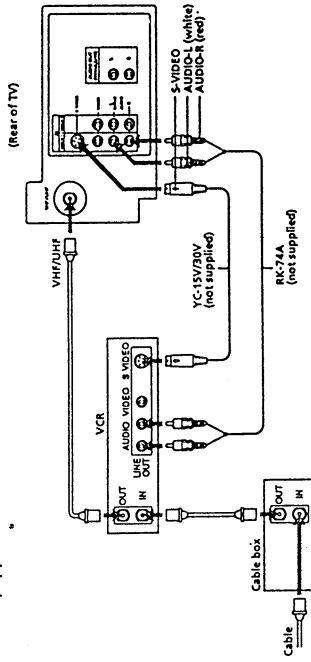
With a cable box



Note

- To connect a monaural VCR, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 1 IN on the TV.

To an S video equipped VCR with a cable box



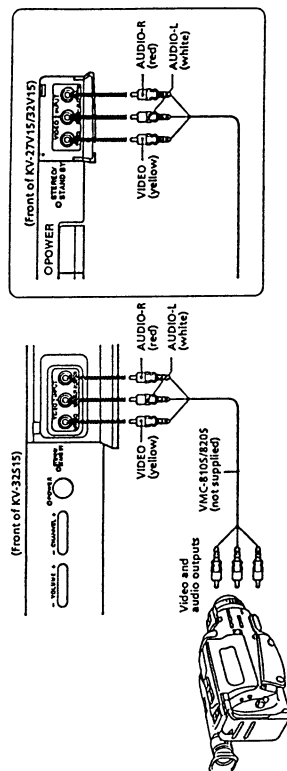
Note

- Video signals are composed of Y (luminance) and C (chroma) signals. The S connection sends the two signals separately, preventing degradation, and gives better picture quality compared to conventional connection.

Connecting a camcorder

KV-27V15/32S15/32V15 only

This connection is convenient for viewing a camcorder.

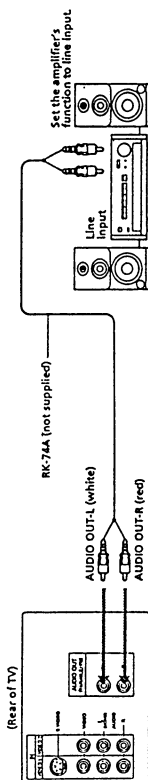


Note

- To connect a monaural camcorder, connect the audio output of the VCR to AUDIO-L (mono) of VIDEO 2 INPUT on the TV.

Connecting an audio system

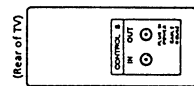
When connecting audio equipment, see page 20 for more information.



Connecting other Sony equipment with CONTROL S jack

KV-27V15/32V15 only

Connect the supplied cable box controller (Cable Mouse) to the CONTROL S OUT jack. Refer to the Cable Mouse's manual for details on the connection.



- Make the following connections to control the TV and connected equipment with one remote commander.
- To control other Sony equipment with the TV's remote commander, connect the input of the equipment to CONTROL S OUT jack on the TV.
 - To control the TV with the remote commander of other Sony equipment, connect the output of the equipment to CONTROL S IN jack on the TV.

Step 2: Setting up the remote commander

Insert one size AA (R6) battery (supplied) by matching the + and - on the battery to the diagram inside the battery compartment.



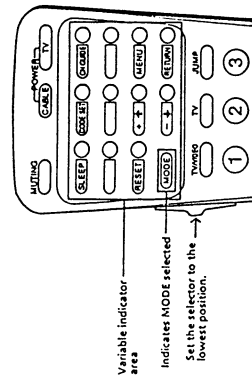
Notes

- With normal use, the battery should last for approximately six months.
- If you do not use the remote commander for an extended period of time, remove the battery to avoid possible damage from battery leakage.
- Do not handle the remote commander roughly. Do not drop it, step on it or let it get wet.
- Do not place the remote commander in direct sunlight, near a heater, or where the humidity is high.

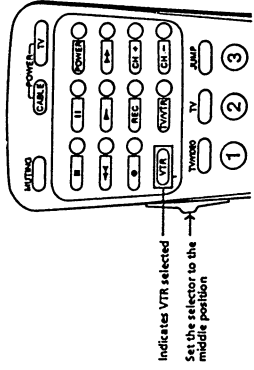
Using the remote commander

The upper half of the remote commander has three selectable operation modes. Each button in this area has three different functions. You can select the mode by sliding a selector on the left side.

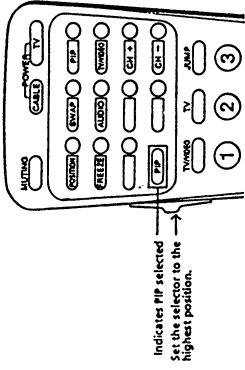
For normal TV viewing



For operating video equipment



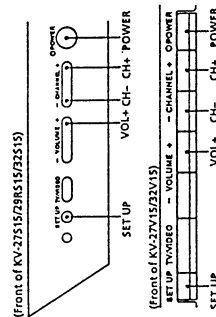
For using the Picture-in-Picture feature



Step 3: Setting up the TV automatically (AUTO SETUP)

For cable box control (Cable Mouse) users (KV-27V15/32V15 only)
Refer to the supplied manual of Cable Mouse on how to set up your TV.

You can set up your TV easily by using AUTO SET UP feature. It presets all the receivable channels. To set up the TV manually, see "Setting cable TV on or off" (page 12) and "Presetting channels" (page 12). If the TV is set to a video input, you cannot execute AUTO SET UP. Press TV/VIDEO or TV so that a channel number appears.



1 Press POWER to turn the TV on.

2 Press SET UP on the front of the TV.

The menu appears.



3 Press CH +.



"AUTO PROGRAM" appears on the screen and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, "AUTO PROGRAM" disappears and the lowest numbered channel is displayed. If the TV receives cable TV channels, CATV is set to ON automatically.

Note

- If more than 90 seconds elapse after you press a button, the menu disappears automatically.

DEMO: To browse the main functions,

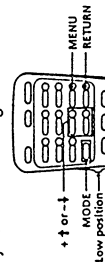
Press VOL+ in step 3. The functions and menus are displayed one by one.

FACTORY PRESET: To restore the factory settings when you are confused about the TV settings.

Press CH- in step 3. The settings of picture and sound are restored to the factory setting.

Erasing or adding channels

After AUTO SET UP you can erase unnecessary channels or add the channels you want. Preset channels during the day rather than late at night, when some channels may not be broadcasting.



1 Press MENU.

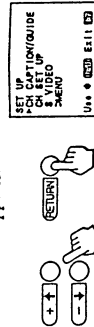
The main menu appears.



(continued)

2 Press + or - to move the cursor (P) to the SET UP and press RETURN.

The SET UP menu appears.



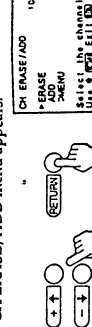
3 Press + or - to move the cursor (P) to CH SET UP and press RETURN.

The CH SET UP menu appears.



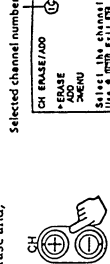
4 Press + or - to move the cursor (P) to CH ERASE/ADD and press RETURN.

The CH ERASE/ADD menu appears.



5 Erase and/or add the channel you want:

- Make sure the cursor (P) is beside ERASE.
- Press CH +/- to select the channel you want to erase and,

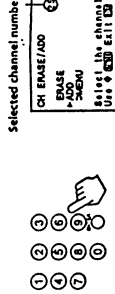


(3) press RETURN.
The indication "-" appears beside the channel number, showing that the channel is erased from the preset memory.



To add a channel that you want

- Press + or - to move the cursor (P) to ADD.
- Press the 0-9 buttons to select the channel you want to add and press ENTER and,



(3) press RETURN.

The indication "+" appears beside the channel number, showing that the channel is added to the preset memory.



6 To erase and/or add other channels, repeat step 5.

7 When you finish, press MENU.



Note

- If you erase or add a VHF or UHF channel, the cable TV channel with the same number is also erased or added, and vice versa.

Setting cable TV on or off

For cable box control (Cable Mouse) users (KV-27V1532 V15 only)
Refer to the supplied manual of Cable Mouse on how to set cable TV.

If you have connected the TV to a cable TV system, set CABLE to ON, the factory setting. If not, set CABLE to OFF.
You do not have to do this procedure if you execute AUTO SET UP (page 10). Do this procedure only when you want to set it manually.

- 1 Press MENU.
- 2 Press + + or - - to move the cursor (▶) to SET UP and press RETURN.
- 3 Press + + or - - to move the cursor (▶) to CH SET UP and press RETURN.

CH SET UP
+ CABLE : ON
+ AUTO PROGRAM
+ CH EASER/ADD
+ MENU
Use + + or - - to move the cursor (▶) to CH SET UP and press RETURN.

- 4 Set CABLE to ON or OFF:

- (1) Make sure the cursor (▶) is beside CABLE and press RETURN.
If the cursor is not beside CABLE, press + + or - - to move the cursor and press RETURN.
- (2) Press + + or - - to select ON or OFF and, press RETURN.

CH SET UP
+ CABLE : OFF
+ AUTO PROGRAM
+ CH EASER/ADD
+ MENU
Use + + or - - to move the cursor (▶) to CH SET UP and press RETURN.

- 5 Press MENU to return to the original screen.

Note
If CH SET UP appears in black, the TV is set to a video input and you cannot select CABLE. Press TV/VIDEO or TV so that a channel number appears.

Presetting channels

For cable box control (Cable Mouse) users (KV-27V1532 V15 only)
Refer to the supplied manual of Cable Mouse on how to preset channels.

You can preset TV channels easily by AUTO PROGRAM feature.
You do not have to do this procedure if you execute AUTO SET UP (page 10). Do this procedure only when you want to set it manually.

- 1 Press MENU.
- 2 Press + + or - - to move the cursor (▶) to SET UP and press RETURN.
- 3 Press + + or - - to move the cursor (▶) to CH SET UP and press RETURN.

CH SET UP
+ CABLE : ON
+ AUTO PROGRAM
+ CH EASER/ADD
+ MENU
Use + + or - - to move the cursor (▶) to CH SET UP and press RETURN.

- 4 Press + + or - - to move the cursor (▶) to AUTO PROGRAM and press RETURN.

CH SET UP
+ CABLE : ON
+ AUTO PROGRAM
+ CH EASER/ADD
+ MENU
Use + + or - - to move the cursor (▶) to CH SET UP and press RETURN.

"AUTO PROGRAM" appears on the screen and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, "AUTO PROGRAM" disappears and the lowest numbered channel is displayed.

- 5 Press MENU to return to the original screen.

Note
If the CH SET UP menu appears in black, the TV is set to a video input and you cannot select AUTO PROGRAM. Press TV/VIDEO or TV so that a channel number appears.

Setting S video on or off

You can change the S VIDEO menu to ON or OFF.

- 1 Press TV/VIDEO to select VIDEO 1.
- 2 Press MENU.
- 3 Press + + or - - to move the cursor (▶) to SET UP and press RETURN.
- 4 Press + + or - - to move the cursor (▶) to S VIDEO and press RETURN.

SET UP
CH CAPTION/GUIDE
CH SET UP
+ S VIDEO : ON
+ MENU
Use + + or - - to move the cursor (▶) to SET UP and press RETURN.

- 5 Press + + or - - to select ON or OFF and press RETURN.

SET UP
CH CAPTION/GUIDE
CH SET UP
+ S VIDEO : OFF
+ MENU
Use + + or - - to move the cursor (▶) to SET UP and press RETURN.

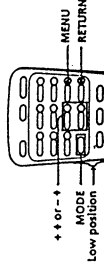
- 6 Press MENU to return to the original screen.

Notes
• If S VIDEO appears in black, set a video input to VIDEO 1.
• If you set S VIDEO to ON, the TV automatically receives S video signals whenever a VCR with S video is connected.

Changing the menu language

■ KV-29RS15 only

If you prefer Spanish to English, you can change the menu language.



- 1 Press MENU.

The main menu appears.



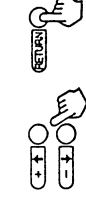
VIDEO
AUDIO
SET UP
BACK LTH
Use + + or - - to move the cursor (▶) to VIDEO and press RETURN.

- 2 Press + + or - - to move the cursor (▶) to ENGLISH and press RETURN.



VIDEO
AUDIO
SET UP
BACK LTH
Use + + or - - to move the cursor (▶) to ENGLISH and press RETURN.

- 3 Press + + or - - to select ESPAÑOL and press RETURN.



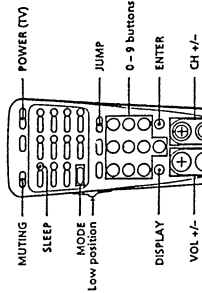
VIDEO
AUDIO
SET UP
BACK LTH
Use + + or - - to move the cursor (▶) to ESPAÑOL and press RETURN.

- 4 Press MENU to return to the original screen.

Note
• Certain parts of the ESPAÑOL menus remain in English.



For cable box control, (Cable Mouse) users
(KY-27V15/27V15 only)
Refer to the supplied manual of Cable Mouse on
How to watch the TV using the Cable box control.



1 Press POWER (TV) to turn the TV on.



If "VIDEO" appears on the screen, press the TV / VIDEO or TV button so that a channel number appears.

2 Select the channel you want:

To select a channel directly
Press the 0-9 buttons and then press ENTER.



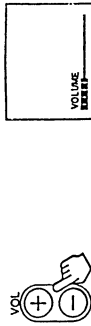
The channel can also be selected without pressing ENTER.

To scan through channels

Press CH +/- until the channel you want appears.



3 Press VOL +/- to adjust the volume.



Note

- Set the CABLE BOX/TV selector to TV.

Switching quickly between two channels

Press JUMP.

The channel you watched previously appears.



Pressing JUMP again switches back the channel.

Muting the sound

Press MUTE.

"MUTING" appears on the screen.



To restore the sound, press MUTE again, or press VOL +.

Displaying on-screen information

Use this feature to check the channel number, channel caption (if set), and MTS mode (if SAP is selected). Press DISPLAY.



To cancel the display, press DISPLAY again.

Setting the Sleep Timer

The TV stays on for the length of time you specify and then shuts off automatically.

Press SLEEP repeatedly until the time (minutes) you want appears.

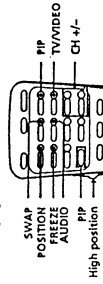
Each time you press SLEEP, the time changes as follows: 30 → 60 → 90 → OFF.



To cancel the Sleep Timer, press SLEEP repeatedly until "SLEEP OFF" appears, or turn the TV off.

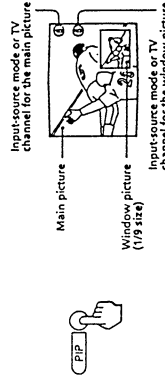
Watching two programs at a time — PIP

The Picture-in-Picture (PIP) feature allows you to watch both the main picture and a window picture simultaneously. You can watch two TV channels at a time with this feature. See "Connecting an antenna/cable TV system with a VCR" (page 6) for connections.

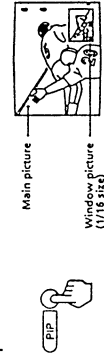


Displaying a window picture

Press PIP.



Press PIP again to display a smaller window picture.



To remove the window picture, press PIP again.

Notes

- If the main picture is not receiving an image, the window picture may be in black and white.
- The window picture may be affected by the condition of the main picture.
- The window picture sound is also output from the VARIABLE/FIX AUDIO OUT jacks when you listen to it.

Changing the window picture input mode

Press TV/VIDEO in the PIP control area to select the input mode.

Each time you press TV/VIDEO, "TV", "VIDEO 1", "VIDEO 2", and "VIDEO 3 (except for KY-27S15/29RS15)" appear in sequence.

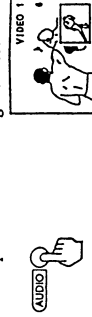


A window picture will appear in the same input mode as the last time you used PIP.

Listening to the sound of the window picture

Press AUDIO.

The \mathbf{A} display appears for a few seconds, indicating that the window picture sound is being received.



To restore the main picture sound, press AUDIO again.

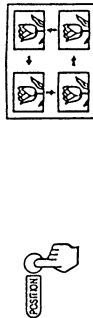
Changing TV channels in the window picture

Press CH +/- in the PIP control area.



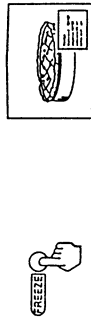
Changing the position of the window picture

Press POSITION.
Each time you press POSITION, the window picture will move counterclockwise on the screen.



Freezing the window picture

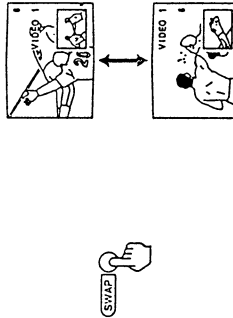
This feature is useful when you want to write down a recipe from a cooking program, a displayed address or a phone number and so on.
Press FREEZE.



To restore the normal screen, press FREEZE again.

Swapping the main and window pictures

Press SWAP.
Each time you press SWAP, the images from the main and window pictures switch places along with the sound.

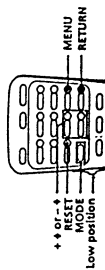


Note

- The channels being received through the AUX jack cannot be displayed as a window picture (KV-32V15 only).

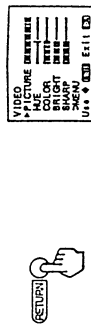
Adjusting the picture (VIDEO)

When watching TV programs, you can adjust the quality of the picture to suit your taste.
You can adjust the picture of video input(s) as well. These settings are stored separately from those for the TV picture.



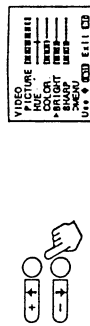
1 Press MENU.

2 Make sure the cursor (▶) is beside VIDEO and press RETURN.



3 Select the item you want to adjust.

For example:
(1) To adjust brightness, press + or - to select BRIGHT and,



(2) press RETURN.



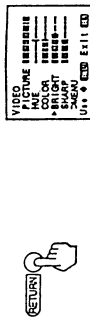
4 Adjust the selected item:

(1) Press + or - to adjust the item and,



(2) press RETURN.

The new setting appears in the VIDEO menu.



For details on each item, see "Description of adjustable items" below.

5 To adjust other items, repeat steps 3 and 4.

Description of adjustable items

Item	Press + to	Press - to
PICTURE	Increase picture contrast and give vivid color	Decrease picture contrast and give soft color
HUE	Make skin tones become greenish	Make skin tones become purplish
COLOR	Increase color intensity	Decrease color intensity
BRIGHT	Brighten the picture	Darken the picture
SHARP	Sharpen the picture	Soften the picture

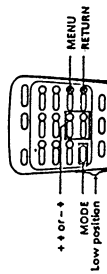
To restore the factory settings

Press RESET while the VIDEO menu is displayed.
All the settings are restored to the factory settings.

Adjusting screen brightness automatically (LUMISPONDER)

■ KV-27V15/32V15 only

The LUMISPONDER feature adjusts the brightness of the screen automatically according to the ambient brightness. The LUMISPONDER function automatically adjusts the level set by the user in the VIDEO menu to the standard.



1 Press MENU.

2 Press + or - to select VIDEO and press RETURN.

3 Press + or - to select LUMISPONDER and press RETURN.

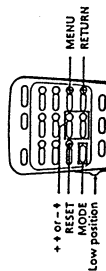


4 Press + or - to select ON or OFF and press RETURN.

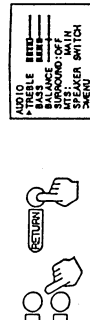


Adjusting the sound (AUDIO)

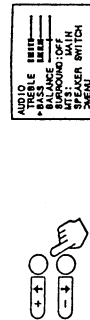
You can adjust the quality of the TV sound to suit your taste.
You can adjust the sound of video input(s) as well.
These settings are stored separately from those for the TV sound.



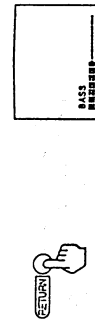
- 1 Press MENU.
- 2 Press \uparrow or \downarrow to select AUDIO and press RETURN.



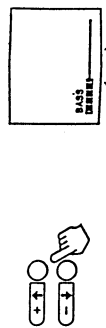
- 3 Select the item you want to adjust.
For example:
(1) To adjust bass, press \uparrow or \downarrow to select BASS and,



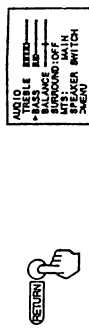
- (2) press RETURN.



- 4 Adjust the selected item:
(1) Press \uparrow or \downarrow to adjust the item and,



- (2) press RETURN.
The new setting appears in the AUDIO menu.



For details on each item, see "Description of adjustable items" below.

- 5 To adjust other items, repeat steps 3 and 4 above.

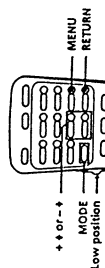
Description of adjustable items	
Item	Press \uparrow or \downarrow to
TREBLE	Increase the treble response
BASS	Increase the bass response
BALANCE	Emphasize the right speaker's volume
SURROUND	Emphasize the left speaker's volume

To restore the factory settings
Press RESET while the AUDIO menu is displayed.

Note
• When SPEAKER (page 20) is OFF and AUDIO OUT (page 20) is FIXED condition, the sound is set to mid-level and it cannot be adjusted.

Listening to surround sound (SURROUND)

SURROUND feature simulates sound reproduction with the atmosphere of a movie theater or a concert hall. Surround sound is only effective for stereo programs.



- 1 Press MENU.
- 2 Press \uparrow or \downarrow to select AUDIO and press RETURN.
- 3 Press \uparrow or \downarrow to select SURROUND and press RETURN.

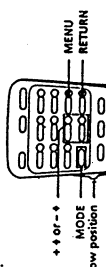


- 4 Press \uparrow or \downarrow to select ON and press RETURN.

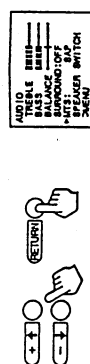


Selecting stereo or bilingual programs (MTS)

The Multichannel TV Sound (MTS) feature allows you to enjoy stereo sound or Second Audio Programs (SAP) at your choice. The initial setting is stereo sound (MAIN).



- 1 Press MENU.
- 2 Press \uparrow or \downarrow to select AUDIO and press RETURN.
- 3 Press \uparrow or \downarrow to select MTS and press RETURN.
- 4 Press \uparrow or \downarrow to select MAIN, SAP, or MONO and press RETURN.

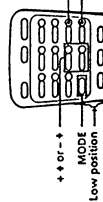


Choose	To
MAIN	Listen to stereo sound. The STEREO indicator on the TV lights up while a stereo broadcast is received.
SAP	Listen to bilingual programs. The sound of non-SAP programs will be muted when SAP is selected.
MONO	Reduce noise during stereo broadcasts.

Note
• Stereo and SAP sounds are subject to program sources.

Setting the speaker switch (SPEAKER)

You may switch off the TV speakers when, for example, you want to listen to the sound through a stereo system.

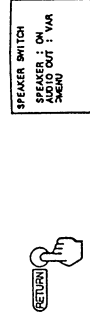


- 1 Press MENU.
- 2 Press \uparrow or \downarrow to select AUDIO and press RETURN.

- 3 Press \uparrow or \downarrow to select SPEAKER SWITCH and press RETURN.



- 4 Make sure the cursor (P) is beside SPEAKER and press RETURN.

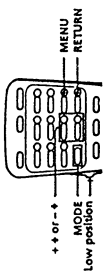


- 5 Press \uparrow or \downarrow to select ON or OFF and press RETURN.



Setting audio out (AUDIO OUT)

You can select audio out to variable or fixed when SPEAKER is set to OFF.
Audio out is variable when SPEAKER is set to ON.



- 1 Press MENU.
- 2 Press \uparrow or \downarrow to select AUDIO and press RETURN.

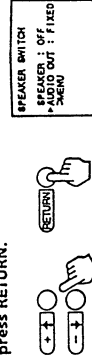
- 3 Press \uparrow or \downarrow to select SPEAKER SWITCH and press RETURN.



- 4 Press \uparrow or \downarrow to select AUDIO OUT and press RETURN.



- 5 Press \uparrow or \downarrow to select VAR or FIXED and press RETURN.



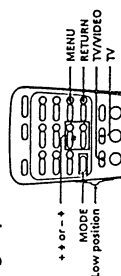
VAR: Sound output varied according to the TV settings. You can adjust the volume, bass, treble and balance.
FIXED: Sound output is always fixed to a certain level. You cannot adjust the volume.

Customizing the channel number buttons (CH CAPTION/GUIDE)

For cable box control (Cable Mouse) users (KV-27V15 (3V15 only))
Make the setting of Cable Mouse before customizing the channel number buttons.

You can choose up to 12 channels, caption each channel, and assign a specific channel number button to each channel. This feature allows you to select your favorite channels easily by name. For example, you can name channel 20 "ESPN," and assign the channel number 4 button to it.

Setting captions to favorite channels



- 1 Press TV/VIDEO or TV to select TV mode.

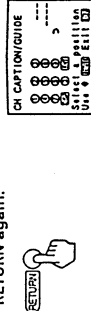
- 2 Press MENU.

- 3 Press \uparrow or \downarrow to select SET UP and press RETURN.

- 4 Press \uparrow or \downarrow to select CH CAPTION/GUIDE and press RETURN.



- 5 Press RETURN again.



- 6 Press \uparrow or \downarrow to select a channel guide number button and press RETURN.
Each time you press \uparrow or \downarrow , the channel positions change to red in turns. The channel number button you select will be the one you press to call up your favorite channel.

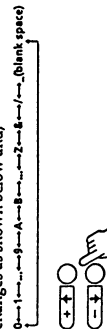


- 7 Press \uparrow or \downarrow to select the channel that you want to caption and press RETURN.



- 8 Enter the letters (up to four) to caption the channel:

(1) Press \uparrow or \downarrow to select the first letter.
Each time you press \uparrow or \downarrow , the letter changes as shown below and,



- (2) press RETURN.



- (3) Repeat steps (1) and (2) to select the remaining letters and press RETURN.



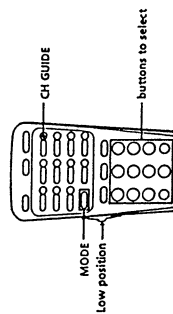
(continued)

- 9 Repeat step 5 to 7 to caption other channels.
To erase a caption
Press RESET after step 5.

NOTE

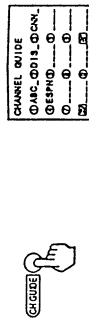
- The position number you already selected appears in yellow.
- If the CH CAPTION/GUIDE menu appears in black, the TV is set to a video input and you cannot select CH CAPTION/GUIDE.
- If more than 90 seconds elapse after you press a button, the menu disappears automatically.

Selecting a captioned channel



- 1 Press CH GUIDE.

The CHANNEL GUIDE menu appears showing channel captions and the corresponding channel number buttons.



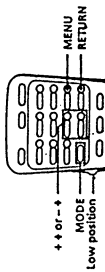
- 2 Press a channel number button, the DISP or ENT button to select the channel you want.

To cancel the CHANNEL GUIDE menu
Press CH GUIDE again.

Setting Video labels (VIDEO LABEL)

■ KV-27V15B2515B2V15 only

This feature allows you to label each input mode so that you can easily identify the connected equipment. For example, you can label VIDEO 1 IN as VHS.



- 1 Press MENU.

- 2 Press + or - to select SET UP and press RETURN.

- 3 Press + or - to select VIDEO LABEL and press RETURN.



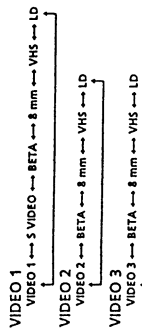
- 4 Press + or - to select the input mode you want to label and press RETURN.



- 5 Press + or - to select the label and press RETURN.



Each time you press + or - or - , the label changes as shown below.



- 6 Repeat steps 4 and 5 to label other input modes.

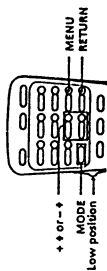
Note

- If more than 90 seconds elapse after you press a button, the menu disappears automatically.

Displaying Caption Vision (CAPTION VISION)

■ KV-27S1527V15B2515B2V15 only

Some source programs provide with Caption Vision (Closed Caption). To display Caption Vision, select either CC1, CC2, TEXT1, or TEXT2 from the menu. CC1 or CC2 shows you a caption, that is a printed version of the dialog or sound effects of a program. (The mode should be set to CC1 for most programs.) TEXT1 or TEXT2 shows you text, that is information presented using half to full of the screen. It is not usually related to the program.



- 1 Press MENU.

- 2 Press + or - to select CAPTION VISION and press RETURN.



- 3 Press + or - to select the caption type and press RETURN.



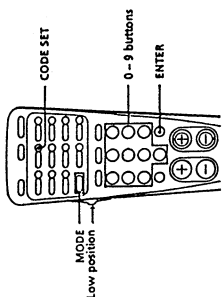
Note

- Captions may appear with a white box or another error instead of a certain word. Poor reception of TV programs can also cause errors in Caption Vision.

Operating video equipment

You can operate video equipment that has an infrared remote sensor with the supplied remote commander. For the operations, set the manufacturer's code number.

Setting the manufacturer's code



While pressing CODE SET, press 0 - 9 to enter the manufacturer's code number (see the chart in the right column). For example, to operate a Sony 8 mm VCR, press 0, 2 and ENTER.



The code numbers for Sony equipment are assigned as follows:

- 01 Beta, ED Beta VCR
- 02 8 mm VCR
- 03 VHS VCR (Factory preset of Remote Commander.)

VCR Manufacturer Code numbers

Manufacturer	Code number
SONY	01, 02, 03
CANON	05
EMERSON	22, 30, 33
FISHER	10, 11, 12, 15
FUNAI	29
GENERAL ELECTRIC	05, 08
GOLDSTAR	25
HITACHI	07, 08, 36
JVC	16, 35
MAGNAVOX	05, 06, 09
MITSUBISHI	18, 19, 26, 27
MULTITECH	29
NEC	16, 23, 31
PANASONIC	05, 06
PHILCO	05, 06, 09
PHILIPS	05, 06
QUASAR	07, 08
RCA	24, 32
SAMSUNG	11, 15
SANYO	21
SCOTT	13, 14
SHARP	34
SHENYONG	29
SYLVANIA	05, 06, 09
SYMPHONIC	29
TEKNIKA	26, 29
TOSHIBA	20, 21
TOTE VISION	25
ZENITH	17

MDP manufacturer code numbers

Manufacturer	Code number
SONY	04
KENWOOD	58
MAGNAVOX	52
MARRANZ	54
MITSUBISHI	51
PANASONIC	55
PHILIPS	52
PIONEER	51
RCA	51
SANYO	57
SHARP	56
YAMAHA	53

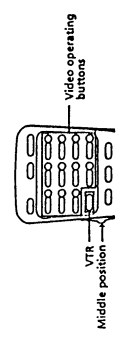
Notes

- * If more than one code number is listed, by entering them one by one, until you come to the correct code for your equipment.
- * In some rare cases, your equipment may not be able to operate your non-Sony video equipment with this remote commander. This is because your equipment may use a code that is not provided with this remote commander. In this case, please use the equipment's own remote control unit.

Caution

When you remove a battery from the remote commander, the code may revert to 03. Reset the code each time you replace the battery, if necessary.

Operating video equipment



Use the video operating buttons on the remote commander to operate the video equipment.

Operating a VCR	Buttons on the remote commander
To turn on or off	Press POWER
To change channels	Press CH +/-
To record	Press ● and REC simultaneously
To play	Press ▶
To stop	Press ■
To fast forward	Press ►►
To rewind the tape	Press ◄◄
To pause	Press II
To search the picture forward and backward	Press ►► or ◄◄ during playback

Operating the laser-disc Player	* Buttons on the remote Commander
To play	Press ▶
To stop	Press ■
To pause	Press II
To search the picture forward and backward	Keep pressing ►► or ◄◄ during playback
To resume normal playback, release the button.	To resume normal playback, release the button.
To search the chapter	Press CH +/-

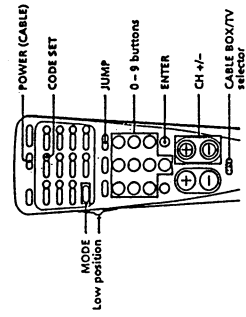
Note

- * If the video equipment does not have a certain function, the corresponding button on this remote commander will not operate.

Operating a cable box

For cable box control (Cable Mouse) users (KV-27V1522V15 only) Set the CABLE BOX/TV selector to TV.

Follow these instructions to set the manufacturer's code which will enable you to operate a connected cable box with the pre-programmed remote commander. For example, you can set the remote commander to operate a connected Zenith cable box.



1 Set the CABLE BOX/TV selector to CABLE BOX.

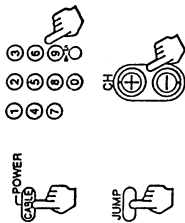


2 While pressing CODE SET, press 6 and 8 (Zenith's code number —see chart on the next page) and ENTER.



(continued)

- 3 Use POWER(CABLE) and the TV control buttons (0-9, ENTER, JUMP and CH +/-) to operate the cable box.



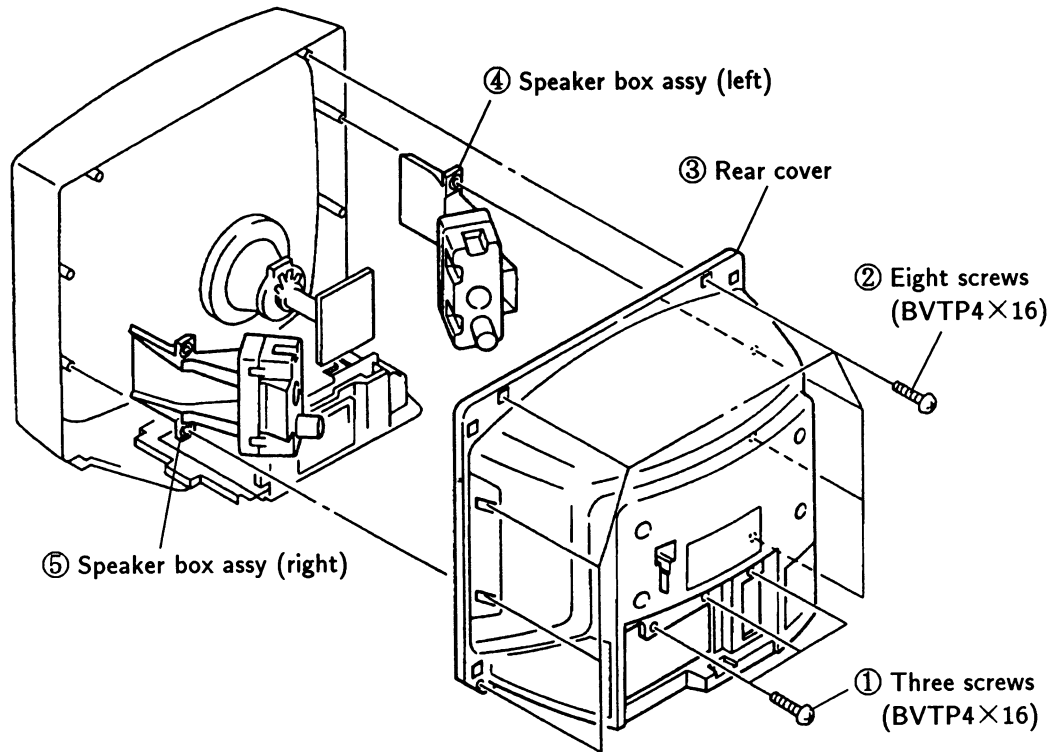
To operate the TV
Set the CABLE BOX/TV selector to TV. Then use the TV control buttons to control the TV.
For more details on operating the cable box Refer to the operating instructions that come with the cable box.

Manufactures and code numbers (cable box)	
Manufacturer	Code number
JEROLD	60, 61, 62, 63, 64, 65, 73
PIONEER	69, 70
SCIENTIFIC ATLANTA	66, 67
TOCOM	71, 72
ZENITH	68

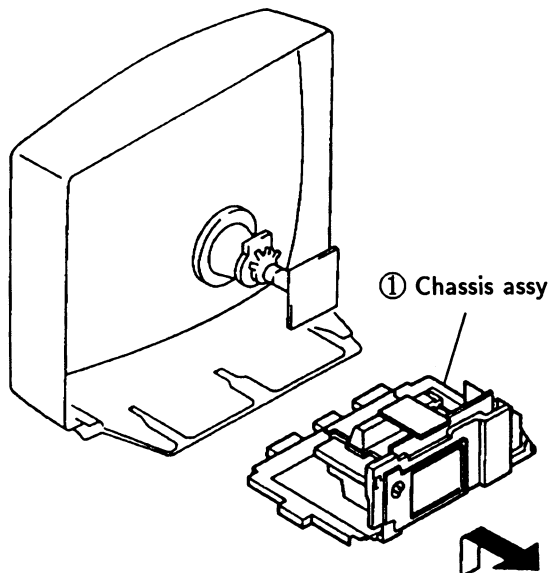
- Notes**
- If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.
 - If you enter a new code number, the code number you previously entered at that setting is erased.
 - In some cases, your equipment may use a code that is not provided with this remote commander and you may not be able to operate your cable box with the supplied remote commander. In this case, use the equipment's own remote control unit.
 - When you remove a battery from the remote commander, the code may be erased. Reset the code each time you replace the battery, if necessary.

SECTION 2 DISASSEMBLY

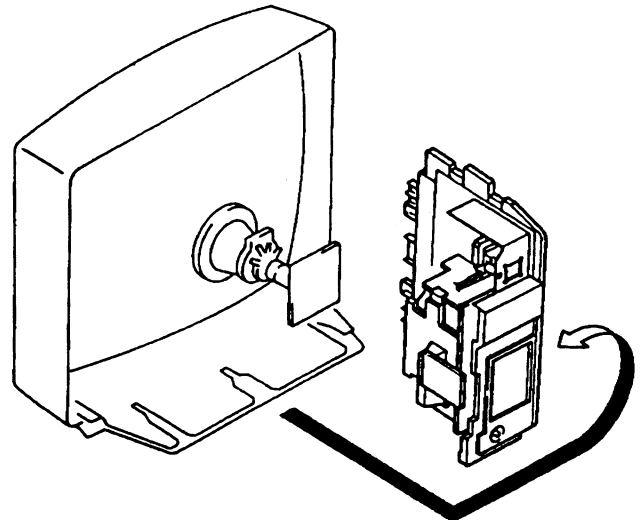
2-1. REAR COVER AND SPEAKER BOX ASSEMBLY REMOVAL



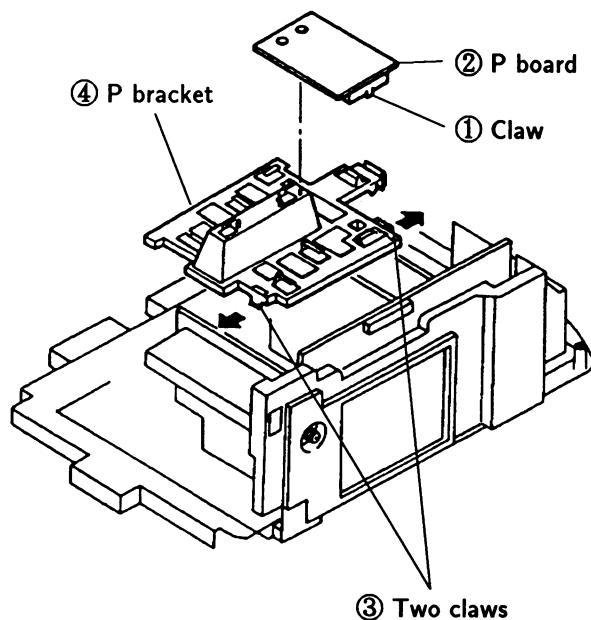
2-2. CHASSIS ASSEMBLY REMOVAL



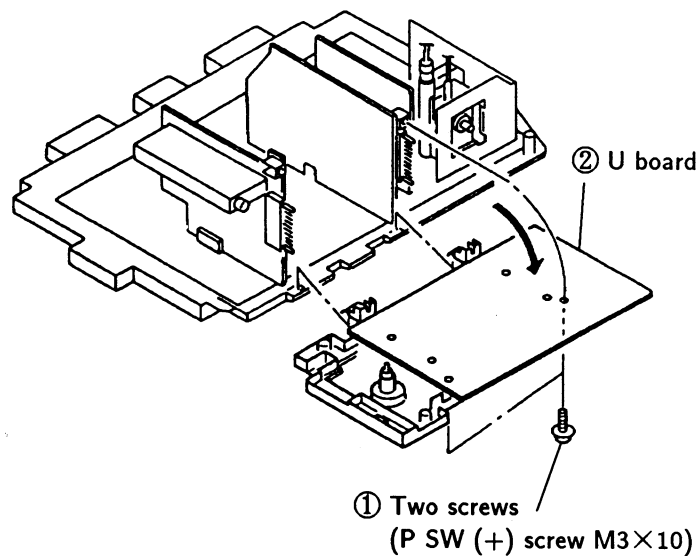
2-3. SERVICE POSITION



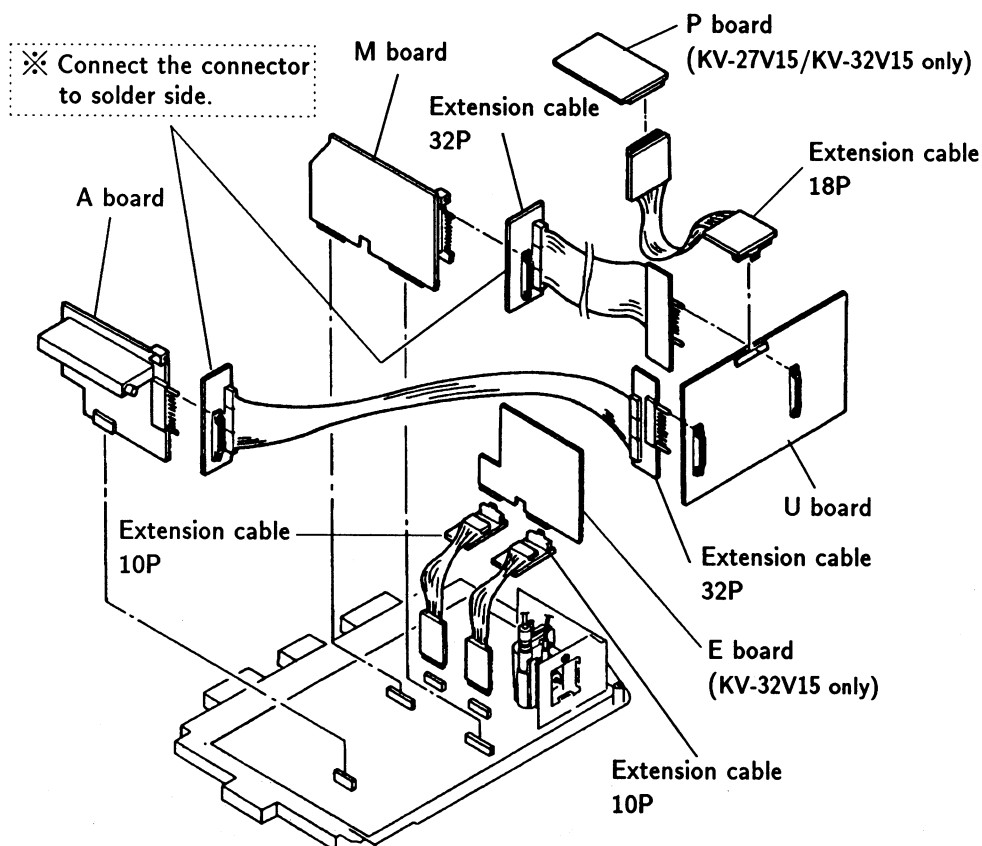
2-4. P BOARD AND BRACKET REMOVAL (KV-27V15/KV-32V15 only)



2-5. U BOARD REMOVAL

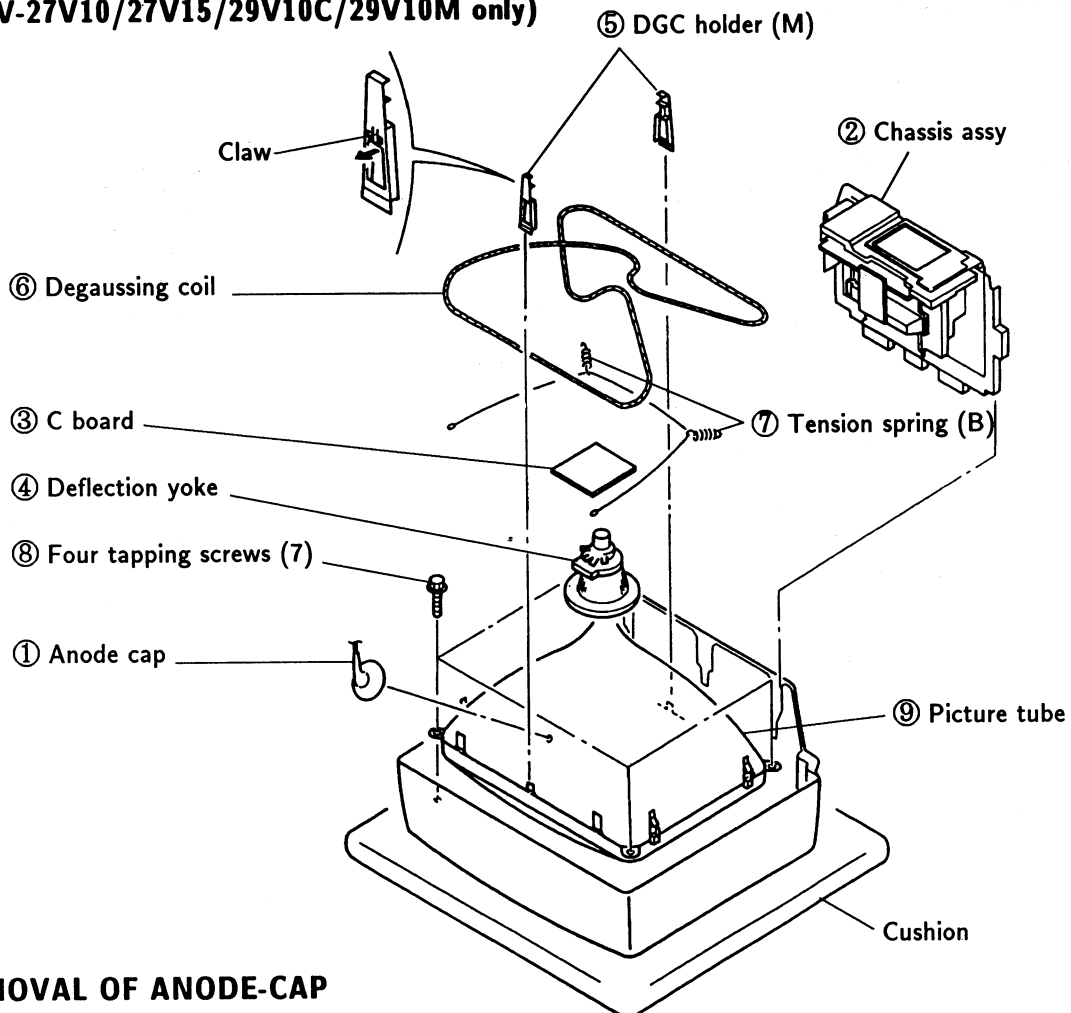


2-6. EXTENSION CABLE



Exterior	
Extension cable	
18P	
3-702-558-01	
10P	
3-702-557-01	
32P	
3-702-592-01 (A-U)	
3-702-593-01 (M-U)	

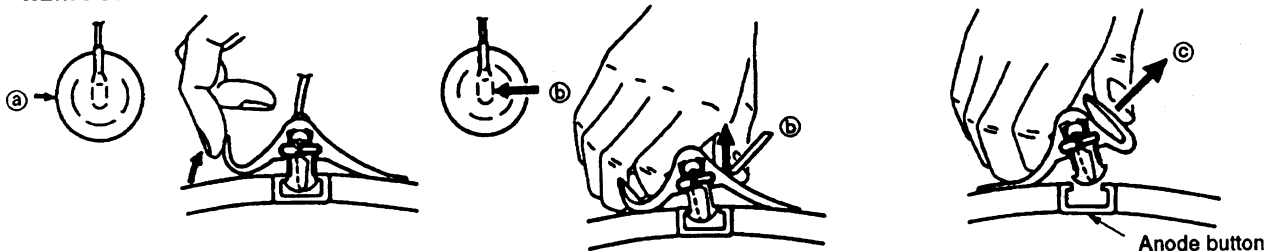
2-7. PICTURE TUBE REMOVAL (1) (KV-27V10/27V15/29V10C/29V10M only)



• REMOVAL OF ANODE-CAP

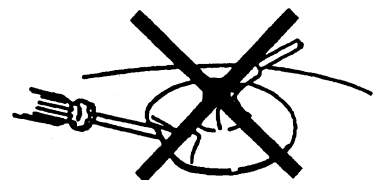
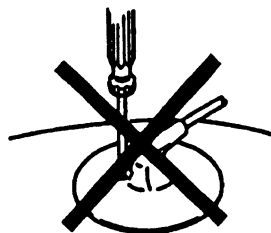
NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

• REMOVING PROCEDURES

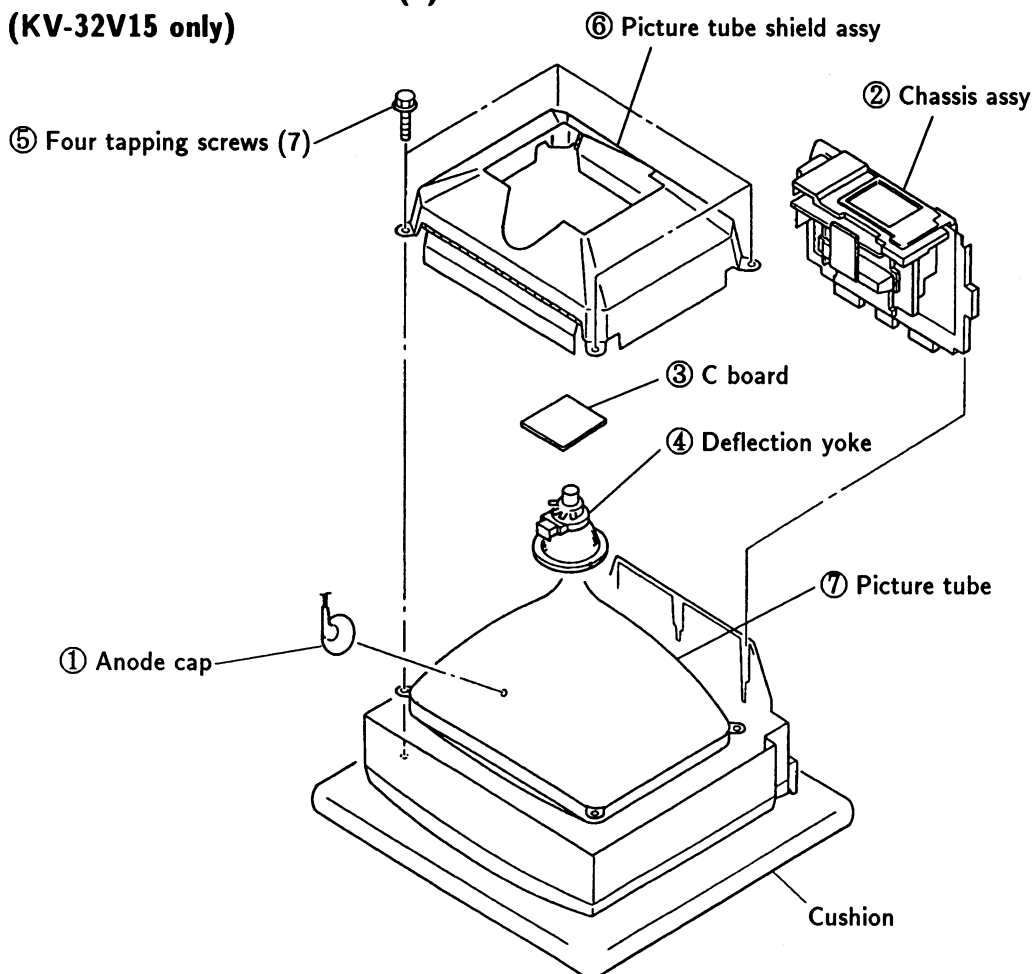


• HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.
- ③



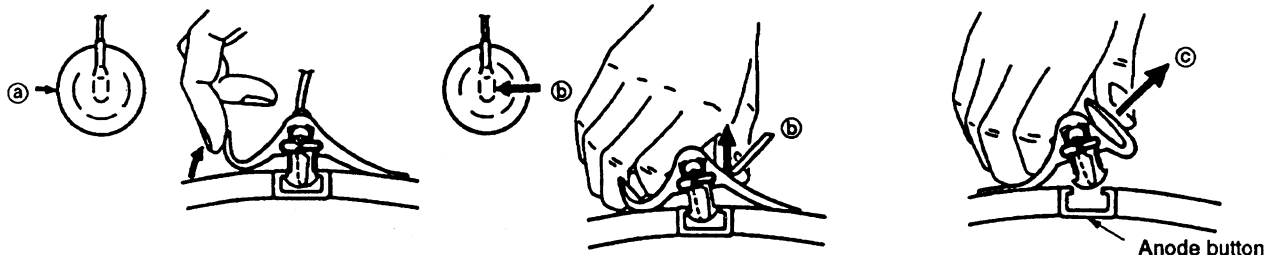
2-7. PICTURE TUBE REMOVAL (2) (KV-32V15 only)



• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

• REMOVING PROCEDURES



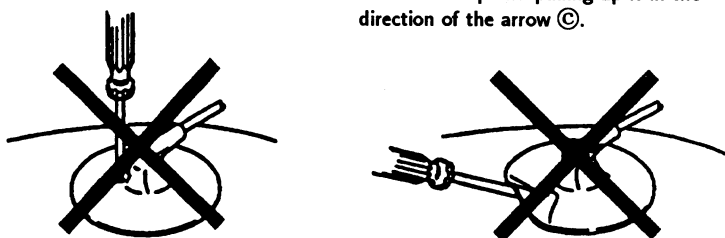
① Turn up one side of the rubber cap in the direction indicated by the arrow ②.

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ①.

③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ③.

• HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!
 A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!
 The shatter-hook terminal will stick out or hurt the rubber.



SECTION 3

SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted :

PICTURE control RESET
 BRIGHTNESS control center

Perform the adjustments in order as follows :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

Note : Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser
3. Oscilloscope

Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
 Contrast } normal
 Brightness } normal
2. Set the pattern generator raster signal to green.
3. Move the deflection yoke to the rear and adjust with the purity control so that the green is at the center and the blue and the red take up equally sized areas on each side.
 (See Figures 3-1 through 3-3.)
4. Move the deflection yoke forward and adjust so that entire screen is green. (See Figure 3-1.)
5. Switch the raster signal to blue, then to red and verify the condition.
6. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
7. If the beam does not land correctly in all the corners, use a magnet to adjust it.
 (See Figure 3-4.)

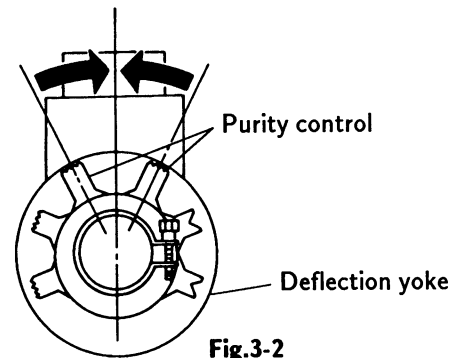


Fig.3-2

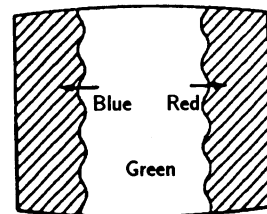


Fig.3-3

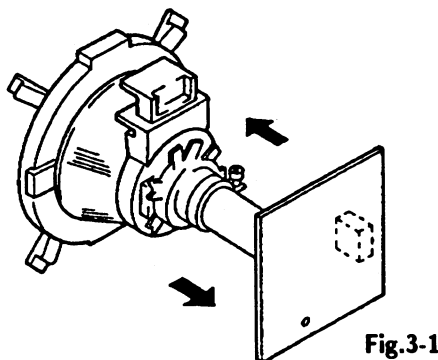


Fig.3-1

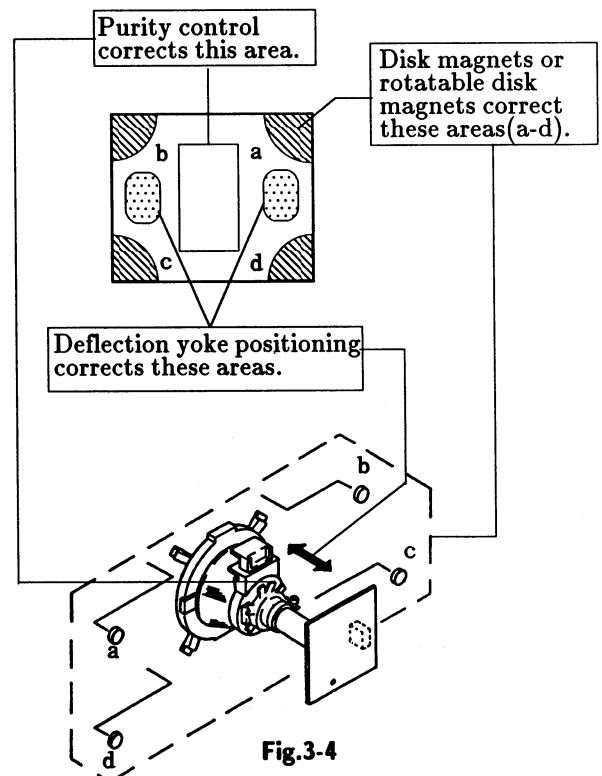


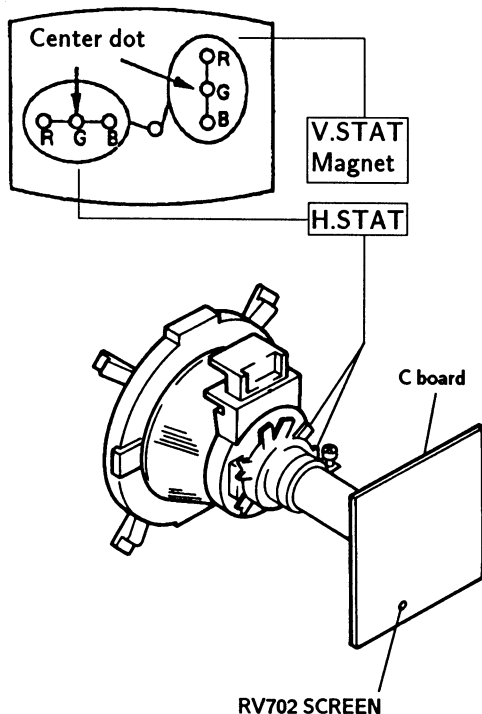
Fig.3-4

3-2. CONVERGENCE

Preparation :

- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and Vertical Static Convergence



1. V. STAT Adjustment

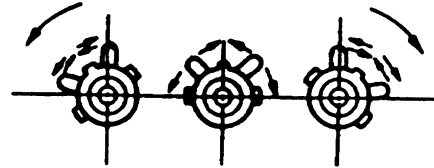
Turn the V. STAT tabs to left or right so that the vertical red, green and blue dots converge in the center of the screen.

2. H. STAT Adjustment

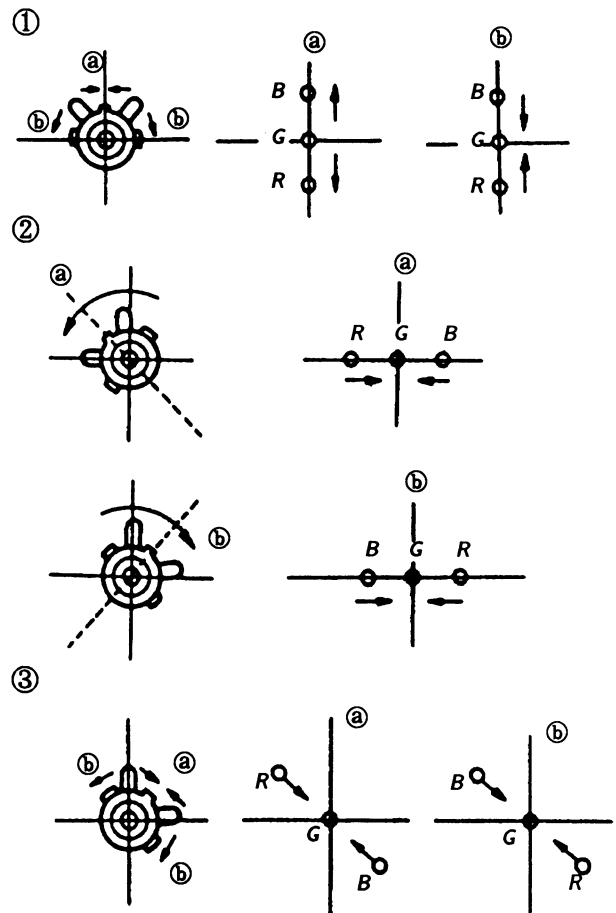
Simultaneously turn the 2 V. STAT tabs in the same direction so that the horizontal red, green and blue dots converge in the center of the screen.

Note : Do not move the purity tab during adjustment with the V. STAT tab. If the purity tab is moved, the convergence condition will change, and possibly lead to misadjustment of a different yoke.

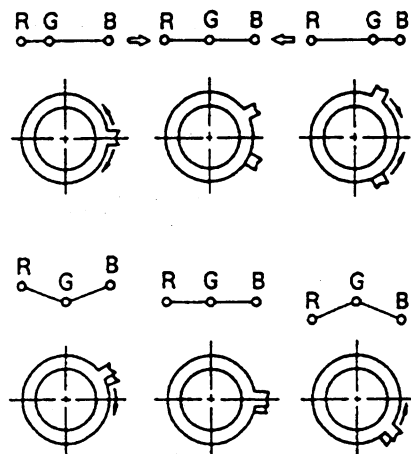
- Tilt the V. STAT tabs and adjust the static convergence by turning the V. STAT tabs to the left or right.



- The V. STAT tabs are moved in the direction of the ① and ② arrows and the red, green and blue points move as shown below.



● Operation of BMC (Hexapole) Magnet



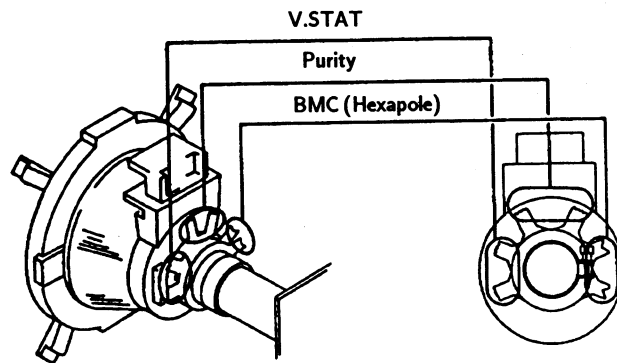
- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
 Use the V.STAT tabs to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

(2) Dynamic Convergence Adjustment

Preparations :

- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

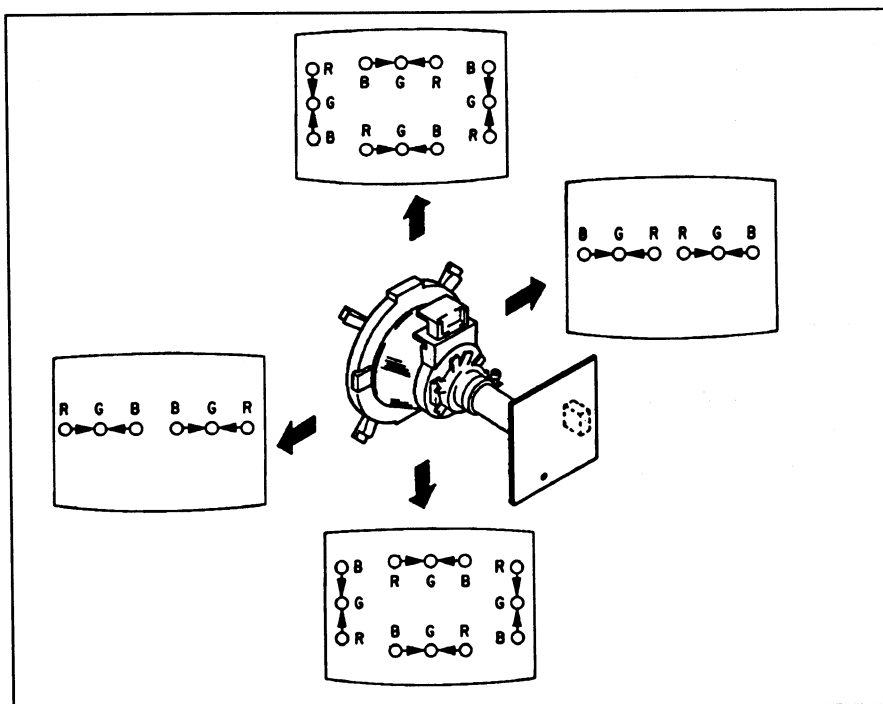
1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.



• Y separation axis correction magnet adjustment

1. Receive the cross-hatch signal, and adjust [PIX] to "MIN" and [BRT] to "standard".
2. Adjust the deflection yoke to the upright condition when it hits the CRT.
3. Adjust so that the Y separation axis correction magnet on the neck assembly is symmetrical at the top and bottom (open state).
4. Return the deflection yoke to its original position.

3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.

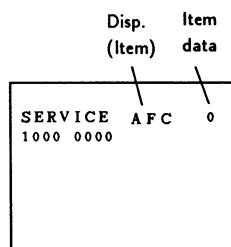


(3) Dynamic Convergence Circuit Adjustment

SERVICE MODE PROCEDURE

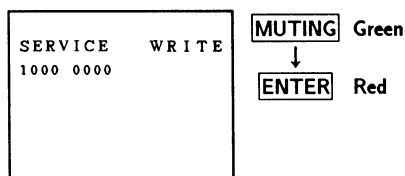
1. Standby mode.(Power off)
2. **DISPLAY** → **5** → **VOL (+)** → **POWER** on the Remote Commander. (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN

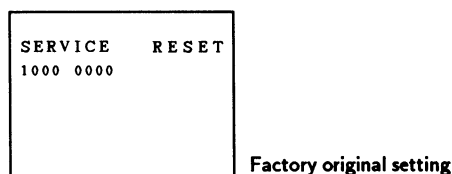


3. The CRT displays the item Being adjusted.
4. Press **1** or **4** on the Remote Commander to select the item.
5. Press **3** or **6** on the Remote Commander to change the data.
6. Press **MUTING** then **ENTER** to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



7. Press **8** then **ENTER** on the Remote Commander to initialize.



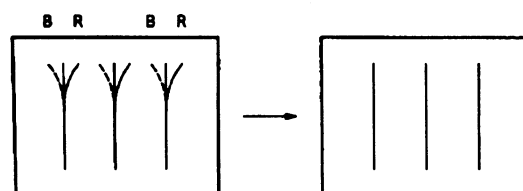
8. Turn set off and on to exit.

- Set to Service Mode.
- Input a cross-hatch signal.
- Press **1** and **4** serect an item of adjustments.
- Adjust **3** and **6** to the best picture.

No.	Disp.	Item	Ave.Data
40	UYBO	Upper Y-Bow	31
41	LYBO	Lower Y-Bow	25
42	HAMP	H. Amp	33
43	HTIL	H. Tilt	33
44	UCBO	Upper C-Bow	38
45	UTIL	Upper Tilt	40
46	LCBO	Lower C-Bow	41
47	LTIL	Lower Tilt	46
48	DCSH	DC Shift	37

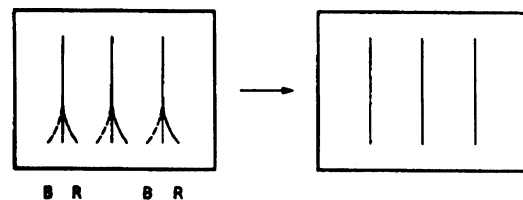
U. YBOW

Select UYBO with **1** and **4**



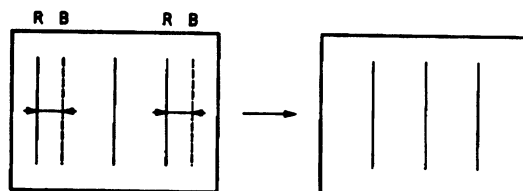
L. YBOW

Select LYBO with **1** and **4**



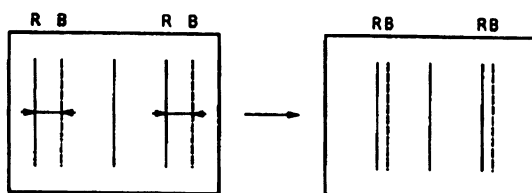
H. AMP

Select HAMP with **1** and **4**



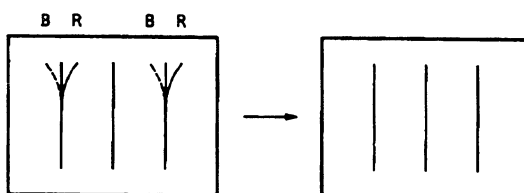
H. TILT

Select HTILT with **1** and **4**



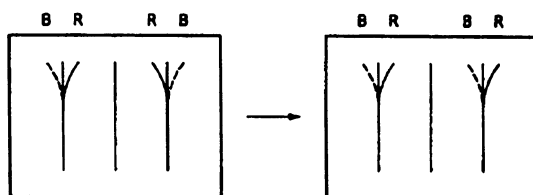
U. CBOW

Select UCBO with **1** and **4**



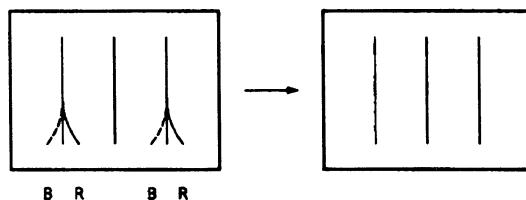
U. TILT

Select UTIL with **1** and **4**



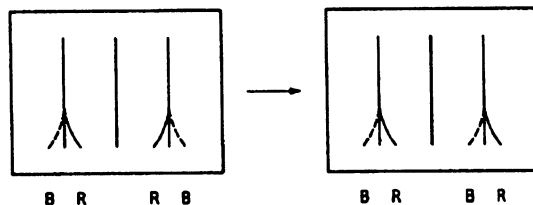
L. CBOW

Select LCBO with **1** and **4**

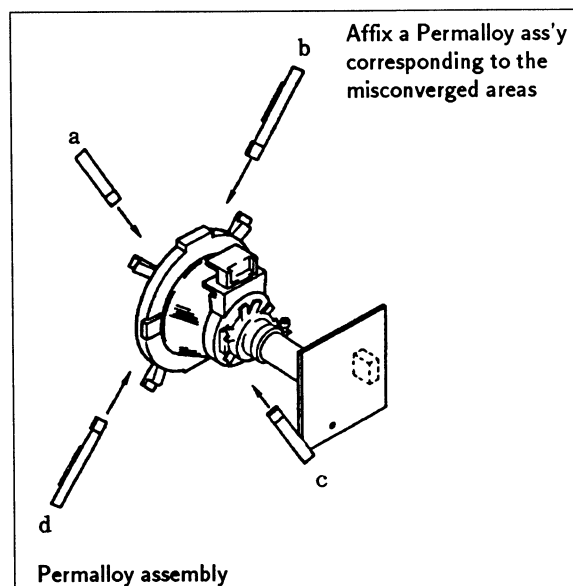
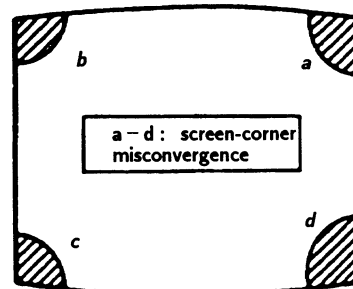


L. TILT

Select L. TIL with **1** and **4**

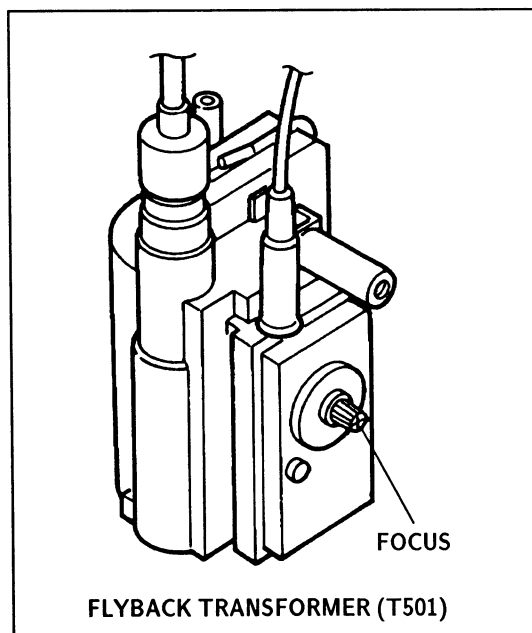


(4) Screen-corner Convergence



3-3. FOCUS ADJUSTMENT

Adjust FOCUS control on the flyback transformer for a best focus.



SECTION 4 SAFETY RELATED ADJUSTMENTS

3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G 2 (SCREEN) ADJUSTMENT (RV 702)

- Set the PICTURE and BRIGHTNESS to normal.
- Apply DC voltage of 170 V to the cathodes of R,G and B from DC stabilized power source.
- While watching the picture, adjust the G2 control (RV 702) to the just the retrace line disappears.

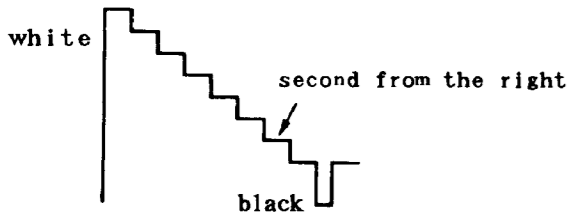
2. WHITE BALANCE ADJUSTMENTS

No.	Disp.	Item	Ave. Data
14	GAMP	Green Amp	20
15	BAMP	Blue Amp	17
16	GCUT	Green Cut-off	7
17	BCUT	Blue Cut-off	8
22	SBRT	Sub Bright	35

- Input an entire white signal.
- Set to service adjustment mode.
- Set the PICTURE and BRIGHT to minimum.
- Adjust with SBRT if necessary.
- Select G CUT and B CUT with **[1]** and **[4]**.
- Adjust with **[3]** and **[6]** for the best white balance.
- Set the PICTURE and BRIGHT to maximum.
- Select GAMP and BAMP with **[1]** and **[4]**.
- Adjust with **[3]** and **[6]** for the best white balance.
- Write into the memory by pressing **[MUTING]** then **[ENTER]**.

3. SUB BRIGHT ADJUSTMENT

- Set to service mode.
- Input a staircase signal of black and white from the pattern generator.
- BRIGHTNESS ... RESET
PICTURE minimum
- Select SBRT with **[1]** and **[4]**, and adjust SUB BRIGHT level with **[3]** and **[6]** so that the stripe second from the right is dimly lit.



❑ R511 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with **[X]** on the schematic diagram).
PM501, R338, R511, R632, R645, R650

①

1. Preparation before confirmation

- Remove R635 on the D board and connect a variable resistor (RV1: about 4.7k Ω -10k Ω) between pin ① of IC601 and B+ line.
- Supply 130 \pm 2.0V AC to with variable auto-transformer.

2. Hold-down operation confirmation

- Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to 1760 \pm 50 μ A with PICTURE and BRIGHT etc controls.
- Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 142.5V DC (27 inch) 140.0V DC (32 inch) whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

- Turn the POWER switch ON, and receive dot signals and adjust ABL current to 160 \pm 50 μ A with PICTURE and BRIGHT etc controls.
- Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 145.0V DC (27 inch), 143.5V DC (32 inch) whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

3. Hold-down readjustment

When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R511 (a component marked with **[X]**).

❑ R524 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with **[X]** on the schematic diagram).
IC601, PM501, D504, C598, R338, R509, R524, R632, R635, R645, T501

②

1. Preparation before confirmation

- Turn the POWER switch ON, and receive entirely white signals and set the PICTURE and BRIGHT controls to maximum.
- Confirm that voltage of the check terminal of TP-85 (D BOARD) is more than 114.0V DC (27 inch) 122.3V DC (32inch) when the set is operating normally with 120.0 \pm 2.0V AC supply.

2. Hold-down operation confirmation

- Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to 1760 \pm 50 μ A with PICTURE and BRIGHT etc controls .
- Apply DC voltage of over 130.0V DC gradually to the check terminal of TP-85 (D BOARD) via 1T40 from the DC stabilized power source. Confirm that the minimum voltage is less than 137.5V DC (27inch) 143.5V DC (32inch) whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

- Turn the POWER switch ON, and receive dot signals and adjust ABL current to 160 \pm 50 μ A with PICTURE and BRIGHT etc controls .
- Apply DC voltage of over 130.0V gradually to the check terminal of TP-85 (D BOARD) via 1 T40 from the DC stabilized power source. Confirm that the minimum voltage is less than 138.0V DC (27inch) 144.1V DC (32inch) whereby the raster disappears during operation of hold-down circuit.

NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.

3. Hold-down readjustment

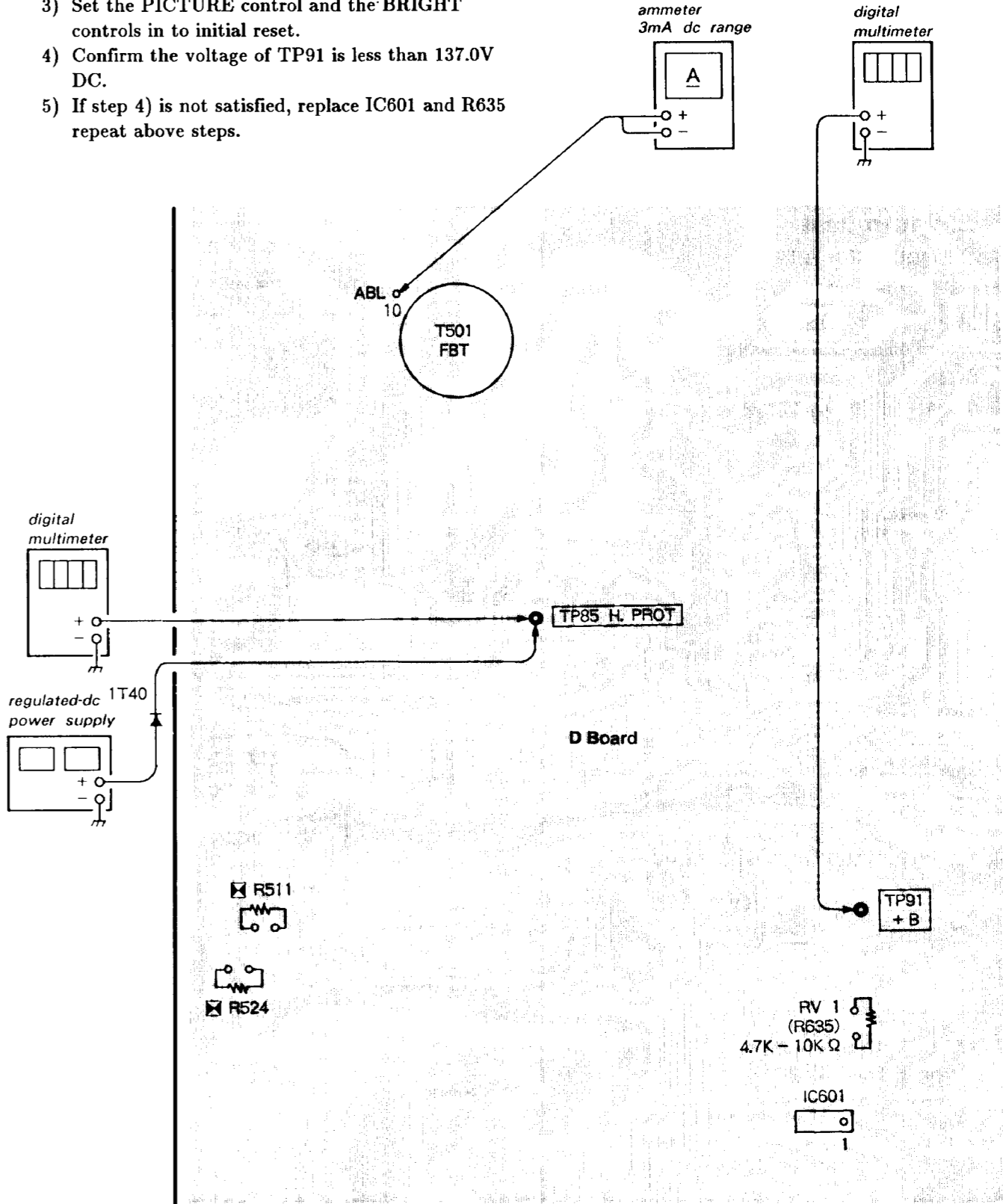
When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R524 (a component marked with **[X]**).

B+ VOLTAGE CONFIRMATION

The following adjustments should always be performed when replacing IC601 and R635.

- Supply 130 \pm 2.0V AC to with variable autotransformer.
- Receive entirely monoscope signal.
- Set the PICTURE control and the BRIGHT controls in to initial reset.
- Confirm the voltage of TP91 is less than 137.0V DC.
- If step 4) is not satisfied, replace IC601 and R635 repeat above steps.

* Use a digital multimeter whose input impedance over 100 M Ω when confirming the voltage of the protector terminal of TP85.

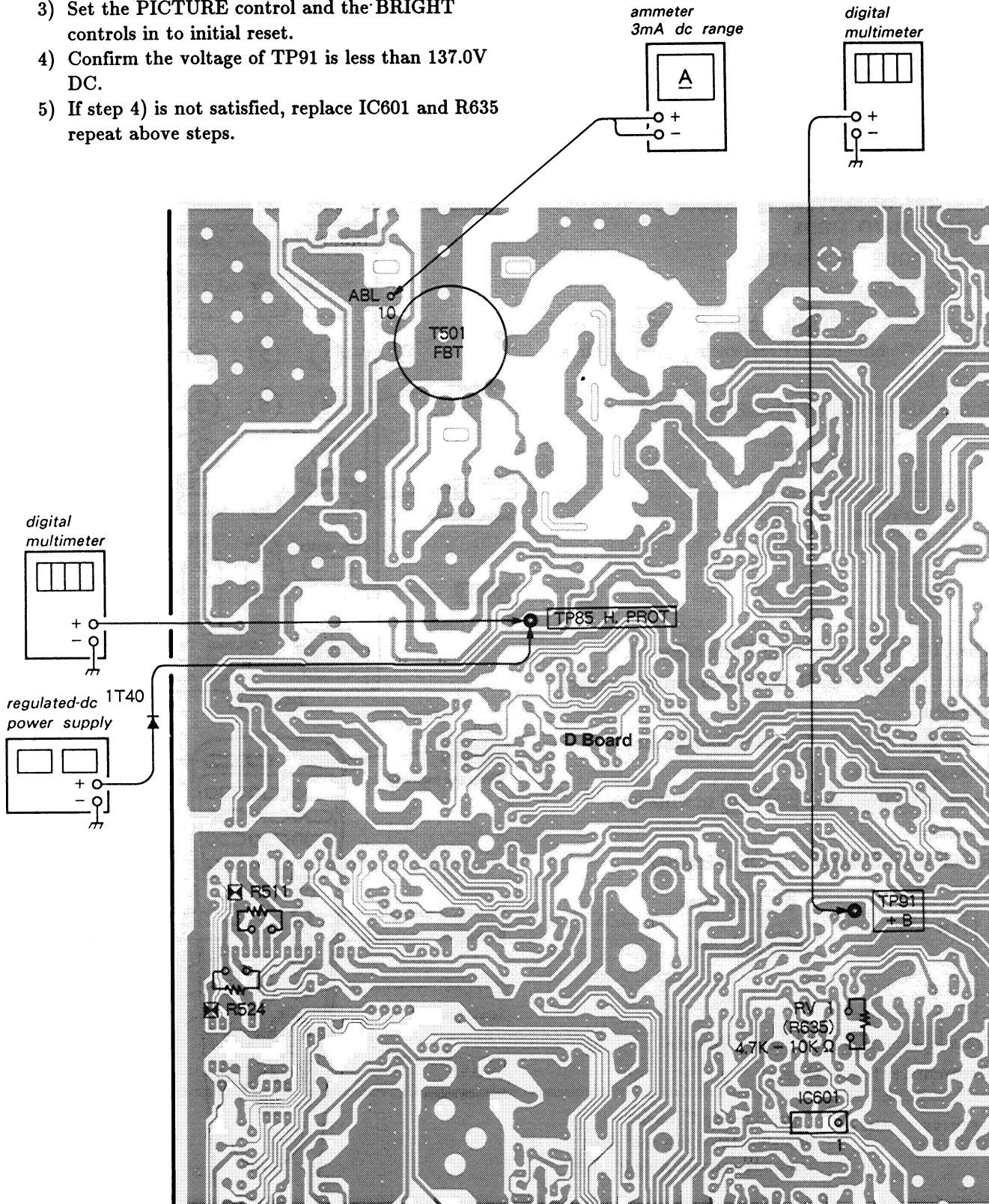


B+ VOLTAGE CONFIRMATION

The following adjustments should always be performed when replacing IC601 and R635.

- 1) Supply $130 \pm 2\%$ V AC to with variable autotransformer.
- 2) Receive entirely monoscope signal.
- 3) Set the PICTURE control and the BRIGHT controls in to initial reset.
- 4) Confirm the voltage of TP91 is less than 137.0V DC.
- 5) If step 4) is not satisfied, replace IC601 and R635 repeat above steps.

* Use a digital multimeter whose input impedance over $100 \text{ M}\Omega$ when confirming the voltage of the protector terminal of TP85.



SECTION 5 CIRCUIT ADJUSTMENTS

5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use of Remote Commander can be performed circuit adjustments about this model.

NOTE : Test Equipment Required.

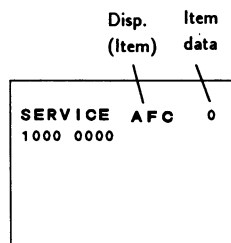
1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio OSC

1. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

SERVICE MODE PROCEDURE

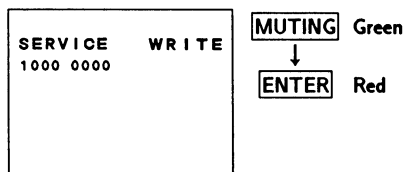
1. Standby mode.(Power off)
2. **DISPLAY** → **5** → **VOL (+)** → **POWER** on the Remote Commander. (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN

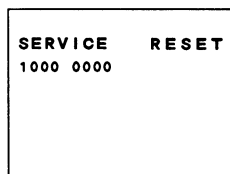


3. The CRT displays the item Being adjusted.
4. Press **1** or **4** on the Remote Commander to select the item.
5. Press **3** or **6** on the Remote Commander to change the data.
6. Press **MUTING** then **ENTER** to write into memory.

SERVICE ADJUSTMENT MODE MEMORY



7. Press **8** then **ENTER** on the Remote Commander to initialize.



Carry out step 7) when adjusting IDs 0 to 4 and when replacing and adjusting IC102.

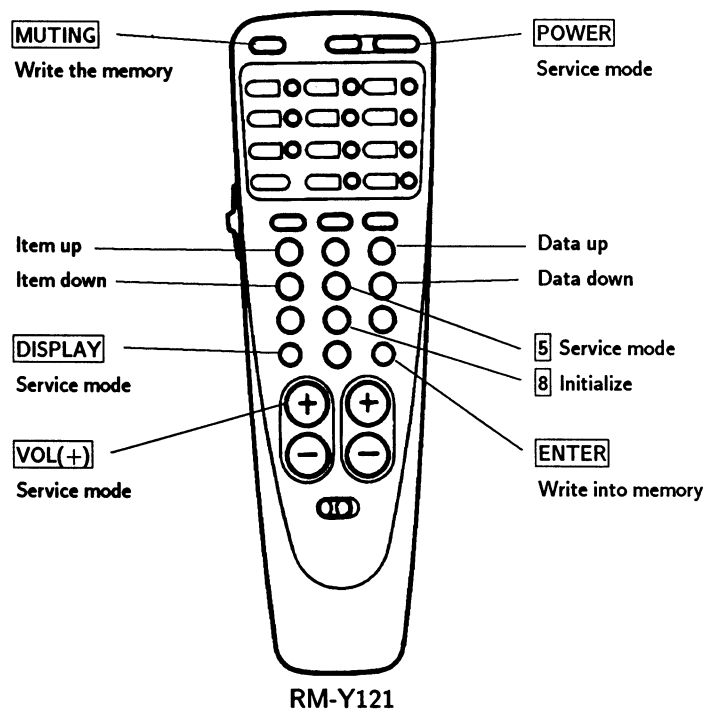
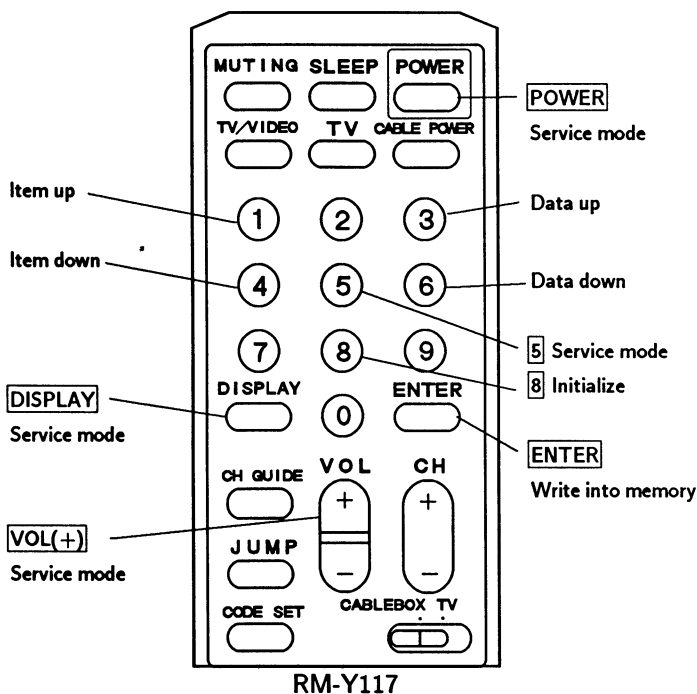
Factory original setting

8. Turn set off and on to exit.

2. MEMORY WRITE CONFIRMATION METHOD

1. After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again, confirm they were adjusted.

3. ADJUST BUTTONS AND INDICATOR



4. AN ITEM OF ADJUSTMENTS

No.	Disp.	Item	Data range	Ave. data (27 inch)	Ave. data (32 inch)
1	AFC	AFC Loop Gain	0~3	* 0	* 0
2	HFRE	H. Frequency	0~127	70	70
3	VFRE	V. Frequency	0~31	14	14
4	VPOS	V. Center	0~31	17	17
5	VSIZ	V. Size	0~63	28	28
6	VLIN	V. Linearity	0~15	8	8
7	VSCO	V. Correction	0~15	6	6
8	HPOS	H. Center	0~15	6	6
9	HSIZ	H. Size	0~31	31	31
10	PAMP	Pin Amp	0~31	24	24
11	CPIN	Corner Pin	0~7	3	3
12	PPHA	Pin Phase	0~15	6	6
13	VCOM	V. Compensation	0~7	* 2	* 2
14	GAMP	Green Amp	0~31	20	20
15	BAMP	Blue Amp	0~31	17	17
16	GCUT	Green Cut Off	0~15	7	7
17	BCUT	Blue Cut Off	0~15	8	8
18	CROM	Chroma Trap	0~63	* 28	* 28
19	SPIX	Sub Contrast	0~63	20	20
20	SHUE	Sub Hue	0~63	33	33
21	SCOL	Sub Color	0~63	32	32
22	SBRT	Sub Bright	0~63	35	35
23	RGBP	RGB Picture	0~63	* 30	* 10
24	SHAP	Sharpness	0~15	* 10	7
25	VSMO	V Pull in Range	0, 1	* 0	* 0
26	REF	Refference line	0~3	* 2	* 2
27	ROFF	Red Out	0, 1	1	1
28	GOFF	Green Out	0, 1	1	1
29	BOFF	Blue Out	0, 1	1	1
30	ABLM	ABL Mode	0, 1	* 0	* 0
31	NOTC	Notch On/Off	0, 1	* 1	* 1
32	DRGB	OSD intensity	0, 1	* 0	* 0
33	DISP	Display Position	0~63	40	40
34	DPDV	Lumipon (dpdv)	0~3	* 1	* 1
35	MPIC	Lumipon (depth)	0~63	* 48	* 48
36	SVOL	Sub Volume	0~15	* 0	* 0
37	SBAL	Sub Balance	0~15	7	7
38	BASS	Sub Bass	0~15	* 8	* 8
39	TRE	Sub Treble	0~15	* 8	* 8
40	UYBO	Upper Y. Bow	0~63	31	31
41	LYBO	Lower Y. Bow	0~63	25	25
42	HAMP	H. Amp	0~63	33	33
43	HTIL	H. Tilt	0~63	33	33
44	UCBO	Upper C. Bow	0~63	38	38
45	UTIL	Upper Tilt	0~63	40	40
46	LCBO	Lower C. Bow	0~63	41	41
47	LTIL	Lower Tilt	0~63	46	46
48	DCSH	DC. Shift	0~63	37	37
49	PHPO	PinP H Position	0~127	76	76
50	PHUE	PinP Hue	0~127	* 0	* 0
51	ID-0	Model ID	0~127	by Model	by Model
52	ID-1	Model ID	0~127	by Model	by Model
53	ID-2	Model ID	0~127	by Model	by Model
54	ID-3	Model ID	0~127	by Model	by Model
55	ID-4	Model ID	0~127	by Model	by Model

Note : No. from 1 to 55 is to show adjusment order.

SERVICE ID 0 64
1000 0000 1000 000

Please adjust the function values as shown below when IC 102 on M board was replaced.

KV-27V 10 (US/CND)

No.	Disp.	Disp.	Data
51	ID-0	1 1 1 1 0 0 0	120
52	ID-1	1 1 1 1 1 1 1	127
53	ID-2	1 0 0 1 0 0 0	72
54	ID-3	0 0 0 0 0 0 0	0
55	ID-4	0 0 1 0 0 0 1	17

KV-27V 15 (US/CND)

No.	Disp.	Disp.	Data
51	ID-0	1 1 1 1 0 0 0	120
52	ID-1	1 1 1 1 1 1 1	127
53	ID-2	1 0 0 1 0 0 0	72
54	ID-3	1 0 0 0 0 0 0	64
55	ID-4	0 0 1 0 0 1 1	19

KV-29V 10 C (WP)/29 V 10 M (E)

No.	Disp.	Disp.	Data
51	ID-0	1 1 1 1 0 0 0	120
52	ID-1	1 1 1 1 1 1 1	127
53	ID-2	0 1 0 0 0 0 0	32
54	ID-3	0 0 0 0 0 0 0	0
55	ID-4	0 0 1 0 0 0 1	17

KV-32 V 15 (US/CND)

No.	Disp.	Disp.	Data
51	ID-0	1 1 1 1 0 0 0	120
52	ID-1	1 1 1 1 1 1 1	127
53	ID-2	1 0 0 1 0 0 0	72
54	ID-3	0 1 0 0 1 0 0	36
55	ID-4	0 0 1 0 0 1 1	19

* : Set-up value

5-2. M BOARD ADJUSTMENTS

H.FREQUENCY ADJUSTMENT (HFRE)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Connect a frequency counter to CN131 Pin⑬ (H. DRIVE) connector and ground.
4. Call the item of AFC, set to 3 level (free run).
5. Select HFRE with **[1]** and **[4]**.
6. Adjust with **[3]** and **[6]** for the $15734 \pm 60\text{Hz}$.
7. Call the item of AFC again, adjust the level "0".
8. Write into the memory by pressing **[MUTING]** then **[ENTER]**.

V.FREQUENCY ADJUSTMENT (VFRE)

1. Select video 1 with no connecting the signal.
2. Set to Service adjustment Mode.
3. Connect the frequency counter across connector CN131 Pin⑦ (V. DRIVE) connector and ground.
4. Select VFRE with **[1]** and **[4]**.
5. Adjust with **[3]** and **[6]** for the $56 \pm 0.5\text{Hz}$.
6. Write the memory by pressing **[MUTING]** then **[ENTER]**.

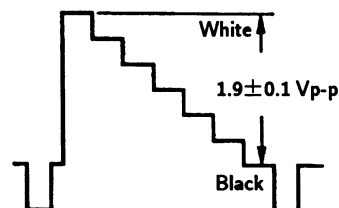
SUB CONTRAST ADJUSTMENT (SPIX)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Set the conditions as follows.

PICTURE	.....	MAX
COLOR	.....	MIN
BRIGHT	.....	CENTER
R OFF	.....	ON (1)
G OFF	.....	OFF (0)
B OFF	.....	OFF (0)

SERVICE ROFF 1	1: ON
1000 0000	0: OFF

4. Connect an oscilloscope to CN703 Pin① (R OUT) of C board and ground.
5. Select SPIX with **[1]** and **[4]**.
6. Adjust with **[3]** and **[6]** for the $1.9 \pm 0.1\text{Vp-p}$.

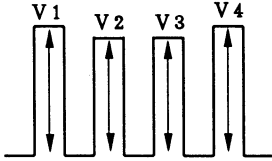


7. Write the memory by pressing **[MUTING]** then **[ENTER]**.
8. Return the following back to normal after adjustment.

PICTURE	.....	MAX
BRIGHT	.....	CENTER
COLOR	.....	CENTER
R OFF	.....	ON
G OFF	.....	ON
B OFF	.....	ON

SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

1. Input a color-bar signal.
2. Set to service adjustment mode.
3. Connect an oscilloscope to CN703 Pin③ (B OUT) of C board.
4. Select SHUE and SCOL with **[1]** and **[4]**.
5. Adjust with **[3]** and **[6]** for the $V1=V4$ (SCOR) and $V2=V3$ (SHUE).



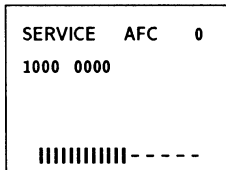
6. Increase the data of SCOL by 3 steps.
7. Write into the memory by pressing **MUTING** then **ENTER**.

SUB BARANCE ADJUSTMENT (SBAL)

1. Input a stereo signal.
2. Set to service adjustment mode.
3. Select SBAL with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for the best sound balance
5. Write into the memory by pressing **MUTING** then **ENTER**.

DISPLAY POSITION ADJUSTMENT (DISP)

1. Input a color-bar signal.
2. Set to service adjustment Mode.
3. Select DISP with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for the bar center.
5. Write the memory by pressing **MUTING** then **ENTER**.

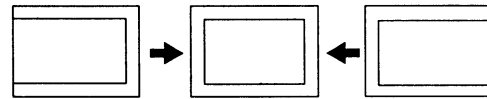


H.CENTER ADJUSTMENT (H POS)

Note: Perform this adjustment after H.FREQUENCY ADJUSTMENT (HFRE) .

1. Input a cross-hatch signal.
2. Set the Service adjustment mode.
3. Select HPOS with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** to the best horizontal center.
5. Write into the memory by pressing **MUTING** then **ENTER**.

H. CENTER (HPOS)



H.SIZE ADJUSTMENT (HSIZ)

1. Input a cross-hatch signal.
2. Set to service adjustment Mode.
3. Select HSIZ with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for best horizontal size.
5. Write into the memory by pressing **MUTING** then **ENTER**.

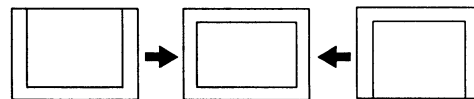
H. SIZE (HSIZ)



V.CENTER ADJUSTMENT (VPOS)

1. Input a cross-hatch signal.
2. Set to service adjustment Mode.
3. Select VPOS with **[1]** and **[4]**.
4. Adjust with **[3]** and **[6]** for the best vertical center.
5. Write into the memory by pressing **MUTING** then **ENTER**.

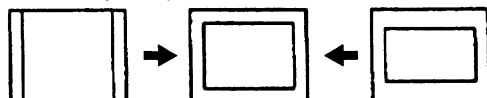
V. CENTER (VPOS)



V.SIZE ADJUSTMENT (VSIZ)

1. Input a cross-hatch signal.
2. Set to service adjustment Mode.
3. Select VSIZ with **1** and **4**.
4. Adjust with **3** and **6** for the best vertical size.
5. Write into the memory by pressing **MUTING** then **ENTER**.

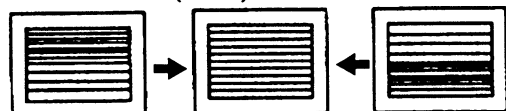
V. SIZE (VSIZ)



V LINEARITY(VLIN), VS CORRECTION(VSCO), PIN AMP(PAMP), CORNER PIN(CPIN), AND PIN PHASE(PPHA) ADJUSTMENTS

1. Input a cross-hatch signal.
2. Set to Service adjustment Mode.
3. Select VLIN, VSCO, PAMP, CPIN, and PPHA with **1** and **4**.
4. Adjust with **3** and **6** for the best picture.
5. Write the memory by Pressing **MUTING** then **ENTER**.

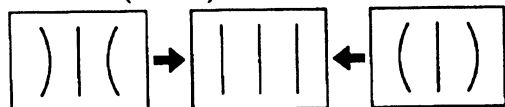
V LINEARITY (VLIN)



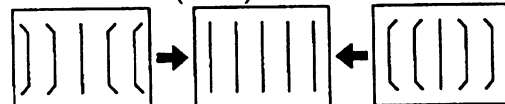
VS CORRECTION (VSCO)



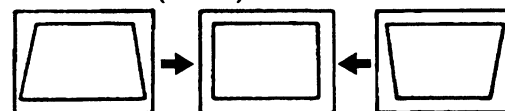
PIN AMP (PAMP)



CORNER PIN (CPIN)



PIN PHASE (PPHA)



5-3. P BOARD ADJUSTMENTS (KV-27V15/32V15 only)

P IN P H. POSITION (PHPO)

1. Input a color-bar signal
2. Set to Service adjustment Mode.
3. Select PHPO with **1** and **4**.
4. Adjust with **3** and **6** for the best balanced cent position at 4 corner P in P display position.
5. Write the memory by pressing **MUTING** then **ENTER**.

SECTION 6
DIAGRAMS

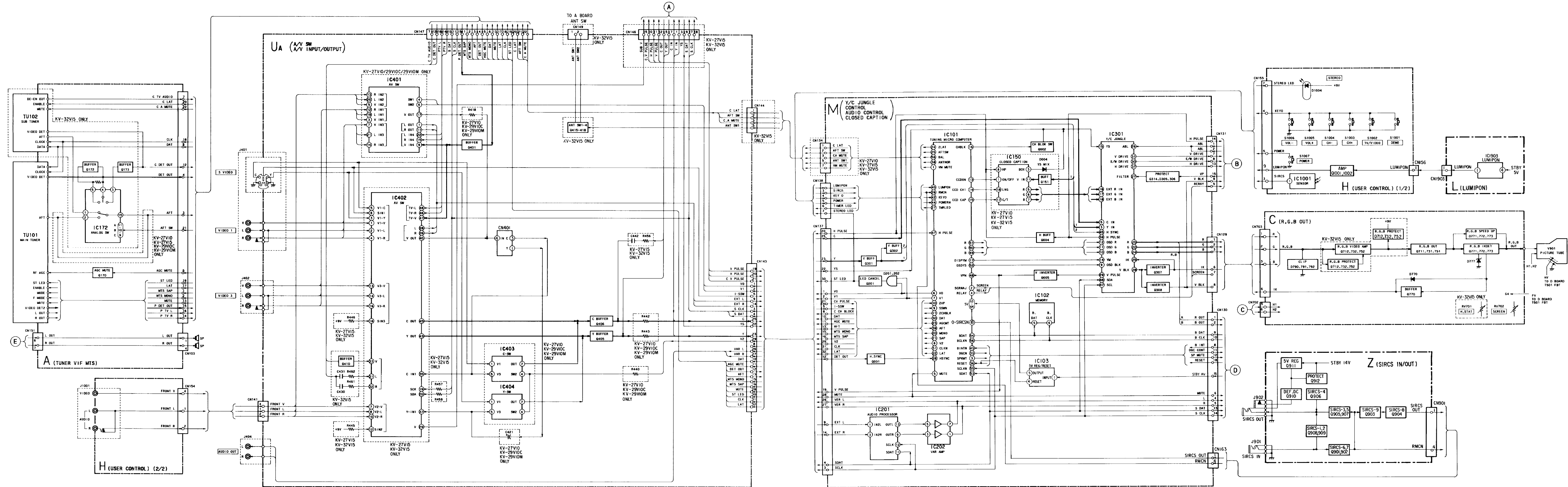
KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y121 RM-CM101

KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y121 RM-CM101

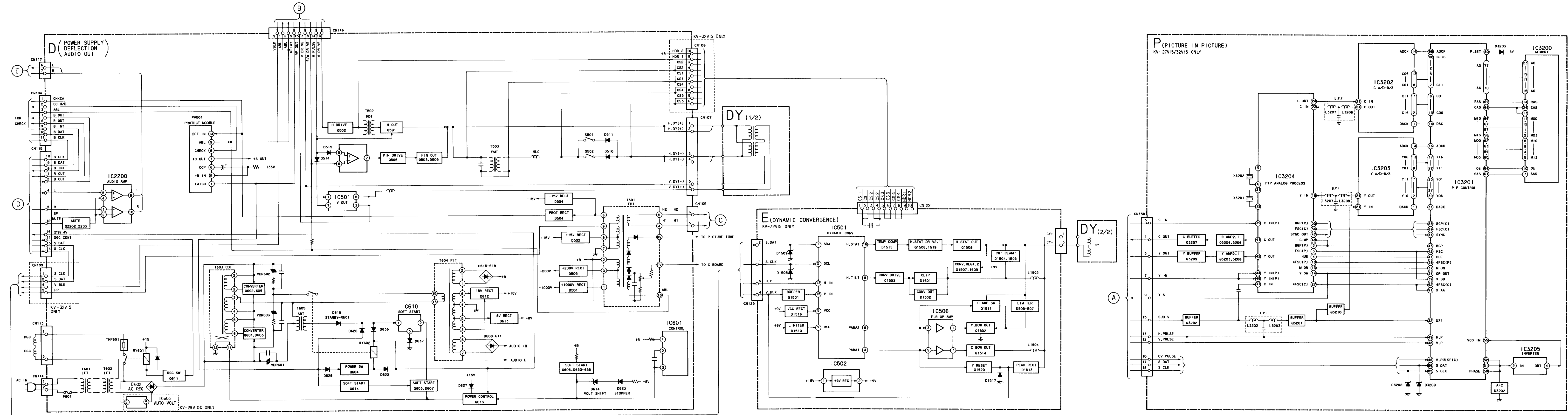
KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y121 RM-CM101

KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y121 RM-CM101

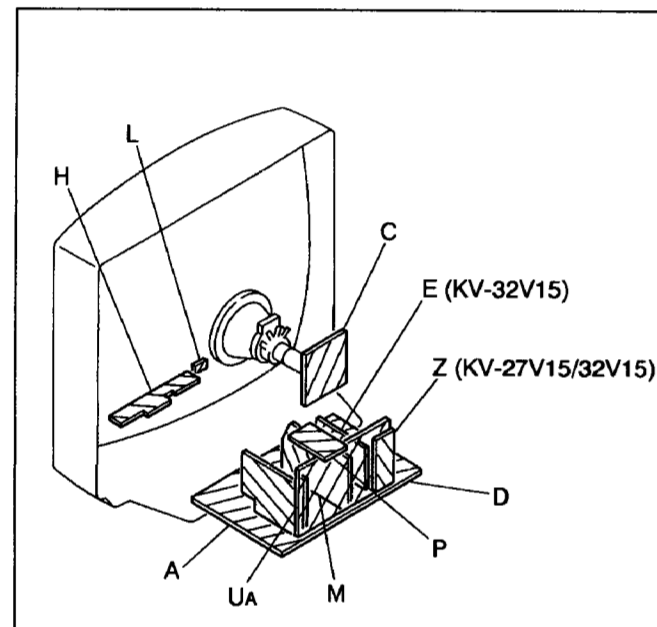
KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y121 RM-CM101



— 50 —



6-4. CIRCUIT BOARDS LOCATION



6-5. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

- Note:**
- All capacitors are in μF unless otherwise noted.
 - pF: μF 50WV or less are not indicated except for electrolytic and tantalums.
 - All electrolytics are in 50V unless otherwise specified.
 - Indication of resistance, which does not have one for rating electrical power, is as follows.
- Pitch: 5 mm
Rating electrical power 1/4W
- Chips resistors are 1/10W.
 - All resistors are in ohms.
 - k Ω =1000 Ω , M Ω =1000K Ω .
 - : nonflammable resistor.
 - : fusible resistor.
 - △: internal component.
 - : panel designation, and adjustment for repair.
 - All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
 - : earth-ground. (cool)
 - : earth-chassis. (hot)
 - The components identified by □ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
 - When replacing components identified by □, make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by □ and repeat the adjustment until the specified value is achieved. (Refer to R511 and R524 on page 34, 35)
 - When replacing the part in below table be sure to perform the related adjustment.

Part replaced (□)	Adjustment (□)
PM501, R511, R632, R645, R650, R338	D BOARD HOLD-DOWN (R511)
IC601, PM501, D504, C598, R509, R524, R632, R635, R645, T501, R338	D BOARD HOLD-DOWN (R524)

- All voltages are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 M Ω digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerance.
- Circled numbers are waveform references.
- : B+ line.
- : B- line.
- : signal path.

Reference Information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: *	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The symbol □ display is on the component side.

The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

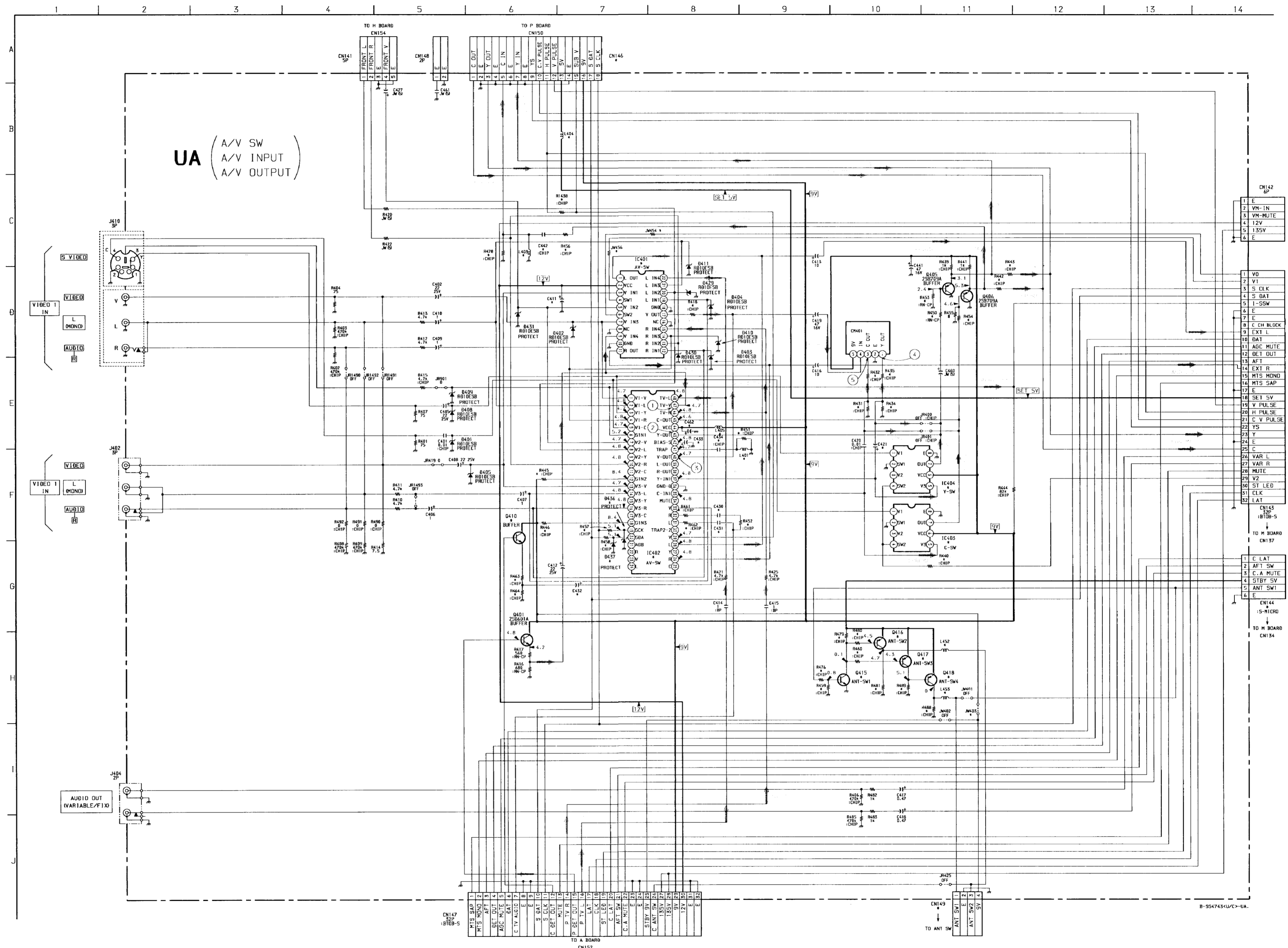
The symbol □ indicate fast operating fuse. Replace only with fuse of same rating as marked.

Note: Les composants identifiés par un tramé et une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Le symbole □ indique une fusible à action rapide. Doit être remplacée par une fusible de même valeur, comme marqué.

Schematic diagrams

UA board →



— UA BOARD —

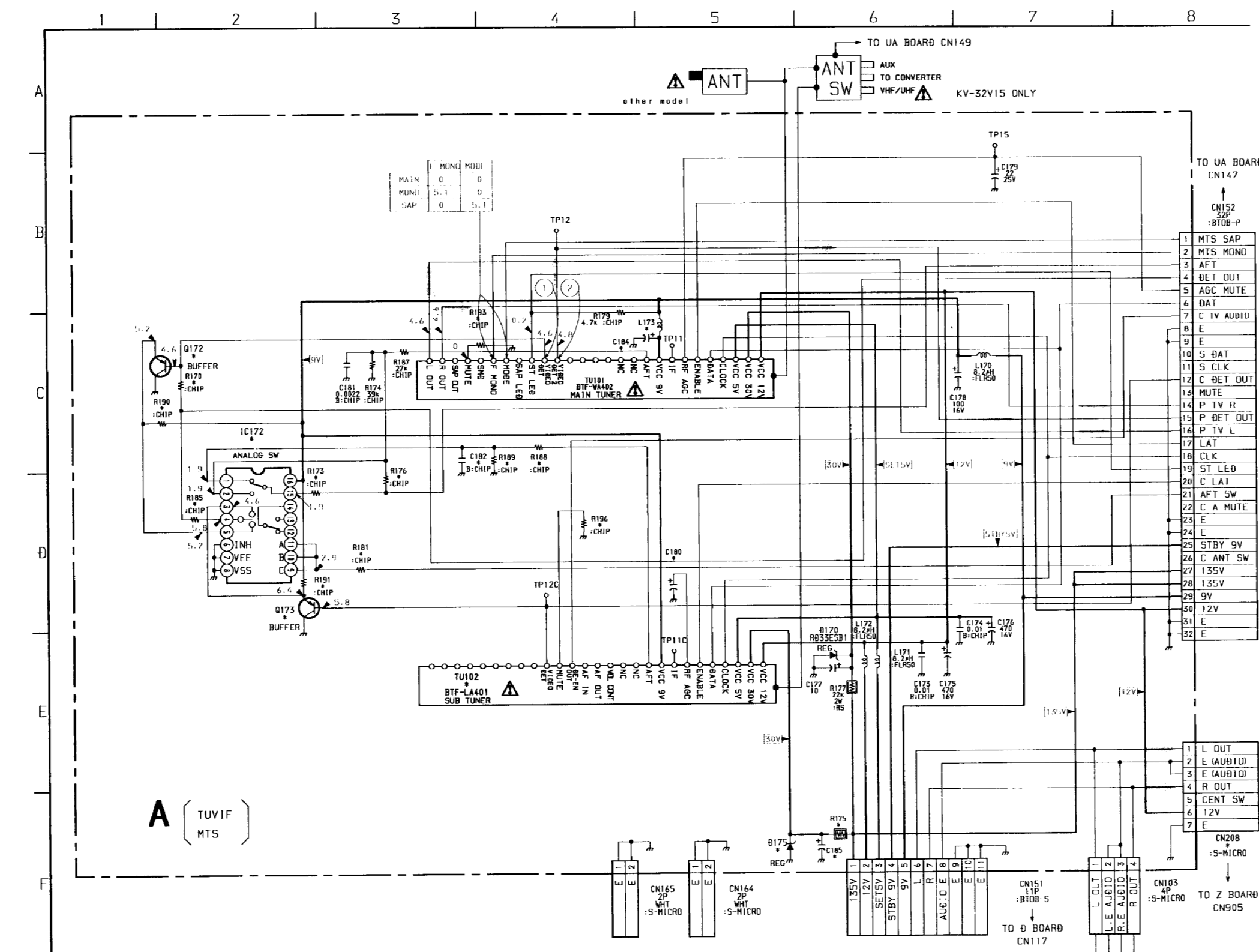
Ref	LOCATION	KV-27V10/27V15 /29V10C/29V10M	KV-32V15
C411	C-6	100 25V	—
C421	E-10	0.47	22 25V
C430	F-8	—	1
C431	F-8	—	1
C432	F-7	—	22 25V
C433	E-8	—	33 25V
C434	E-8	—	100P
C442	C-6	—	100P
C462	E-8	—	100 16V
CN142	C-14	—	2P
CN144	F-14	—	6P
CN146	A-7	—	18P
CN149	K-11	—	4P
D436	F-7	—	RD10ESB
D437	F-7	—	RD10ESB
IC401	C-7	M52470AP	—
IC402	E-7	—	CXA1545AS
IC403	F-10	MM1114XFF	—
IC404	E-10	MM1118XFF	—
JW403	J-11	—	10MM
JW454	C-8	10K	—
JW456	C-7	10K	—
L401	E-9	—	18 μ H
L403	C-6	—	33 μ H
L404	B-6	—	33 μ H
L405	E-8	—	JW (5)
L452	I-10	—	JW (5)
L453	J-10	—	JW (5)
Q410	F-6	—	2SD601A
Q415	I-9	—	2SD601A
Q416	I-9	—	2SB709A
Q417	I-10	—	2SB709A
Q418	I-10	—	2SB709A
R418	D-8	100	—
R413	D-10	680	1K
R432	D-10	680	0
R434	D-10	680	1K
R435	D-10	680	0
R440	F-10	100	—
R442	C-11	100	—
R443	C-11	100	—
R445	E-6	—	10K
R446	F-6	—	10K
R450	C-11	100	470
R451	E-9	—	4.7K
R452	F-9	—	100
R453	C-11	1.2K	560
R454	D-11	100	0
R456	C-6	—	470
R457	F-7	—	220
R458	F-7	—	220
R459	I-9	—	22K
R460	I-9	—	330
R461	F-8	—	4.7K
R462	F-8	—	4.7K
R463	F-6	—	680
R464	G-6	—	680
R476	I-9	—	22K
R478	C-6	—	470
R479	I-9	—	22K
R480	I-9	—	22K
R481	I-10	—	22K
R488	I-10	—	22K
R489	I-10	—	22K
R1438	C-6	—	22K

—: NOT MOUNT

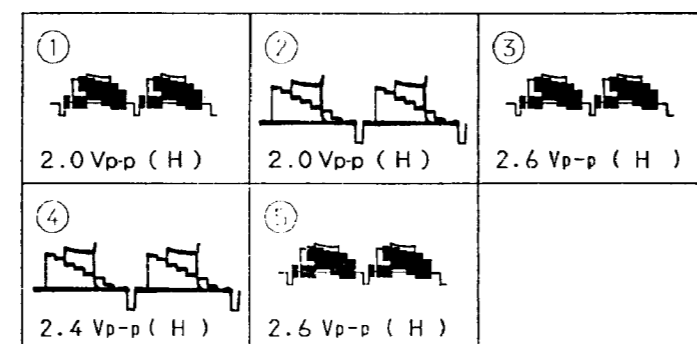
— A BOARD —

Ref	LOCATION	KV-27V10/27V15 /29V10C/29V10M	KV-32V15
C180	D-5	—	22MF / 25V
C182	D-3	—	0.0022MF
C184	D-5	—	10MF / 50V
C185	F-6	—	10MF / 50V
CN208	F-8	7P	—
D175	F-5	—	RD33ESB1
IC172	D-2	—	BU4053BF
L173	C-5	—	8.2 μ H
Q172	C-2	—	2SA1162-G
Q173	D-2	—	2SA1162-G
R170	C-2	100 1/10W	—
R173	D-3	—	0 1/10W
R175	F-6	—	22K 2W
R176	D-3	0 1/10W	—
R181	D-3	—	100 1/10W
R185	D-2	—	100 1/10W
R188	D-4	—	39K 1/10W
R189	D-4	—	27K 1/10W
R190	C-2	—	4.7K 1/10W
R191	D-3	—	4.7K 1/10W
R193	C-3	—	330 1/10W
R196	D-4	—	330 1/10W
TU102	E-4	—	BTF-LA401

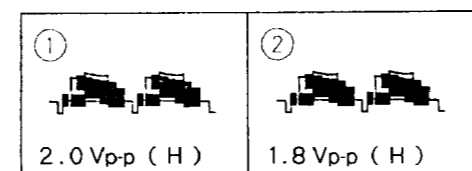
—: NOT MOUNT



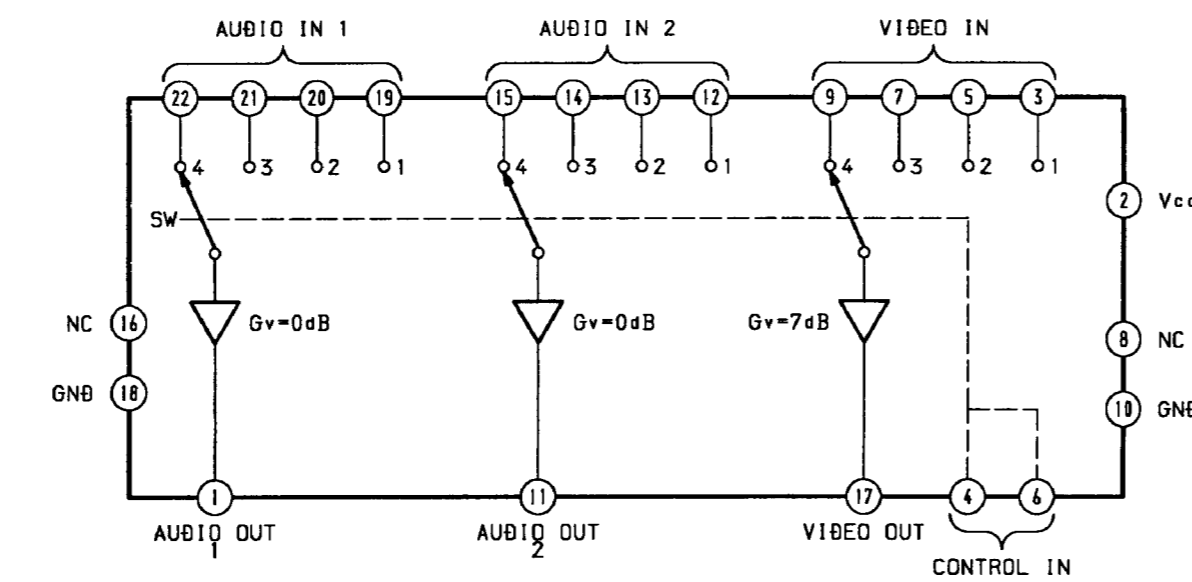
• UA BOARD WAVEFORMS



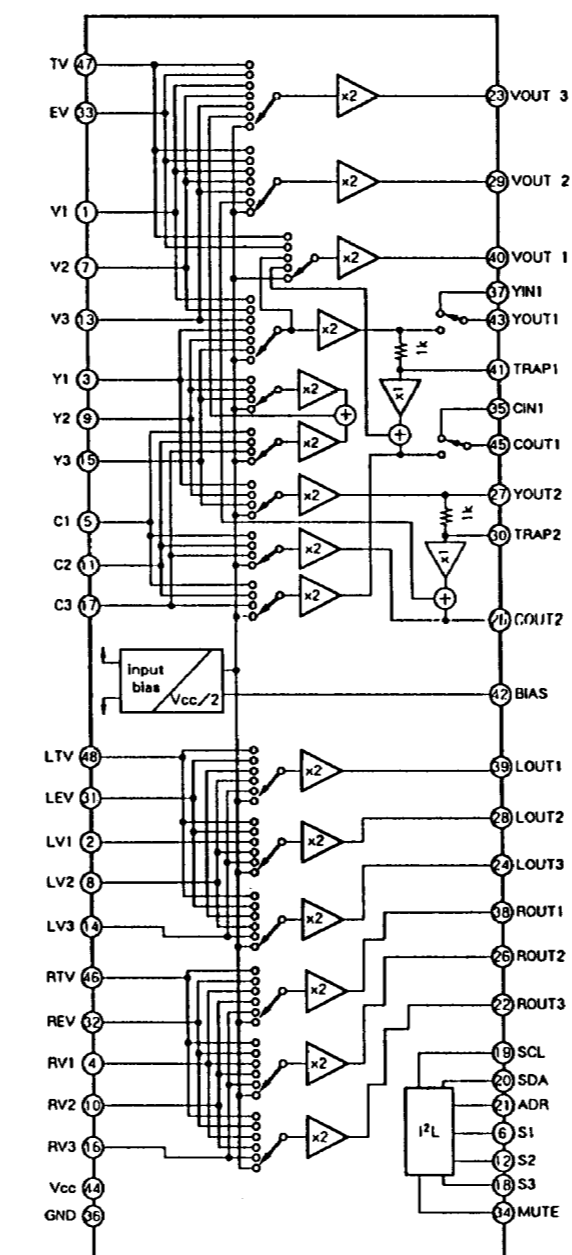
• A BOARD WAVEFORMS



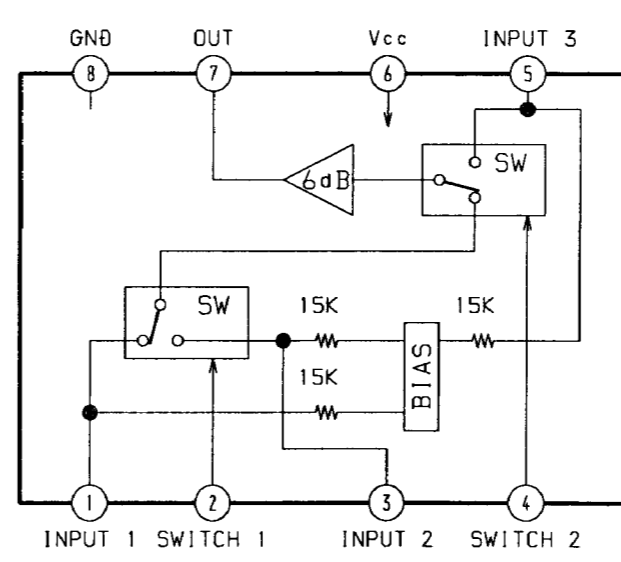
• UA Board IC401 M52470AP



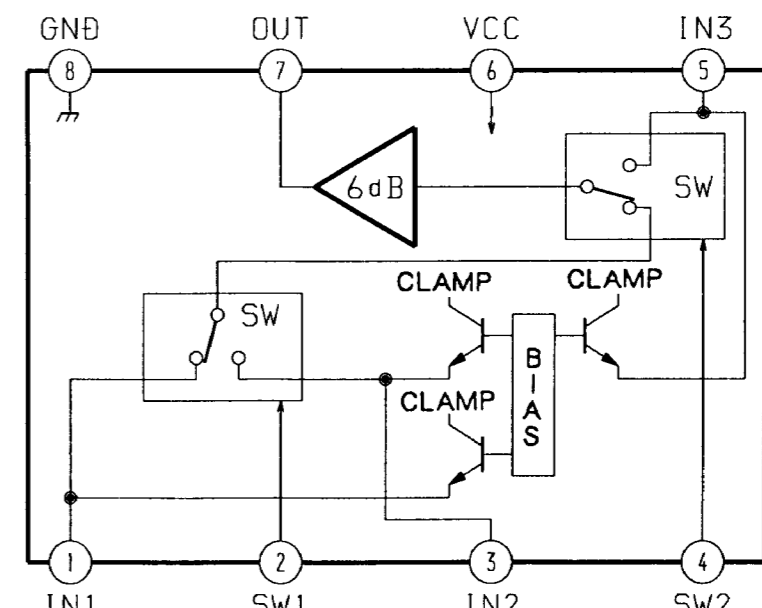
• UA Board IC402 CXA1545AS



• UA Board IC403 MM1114XFF

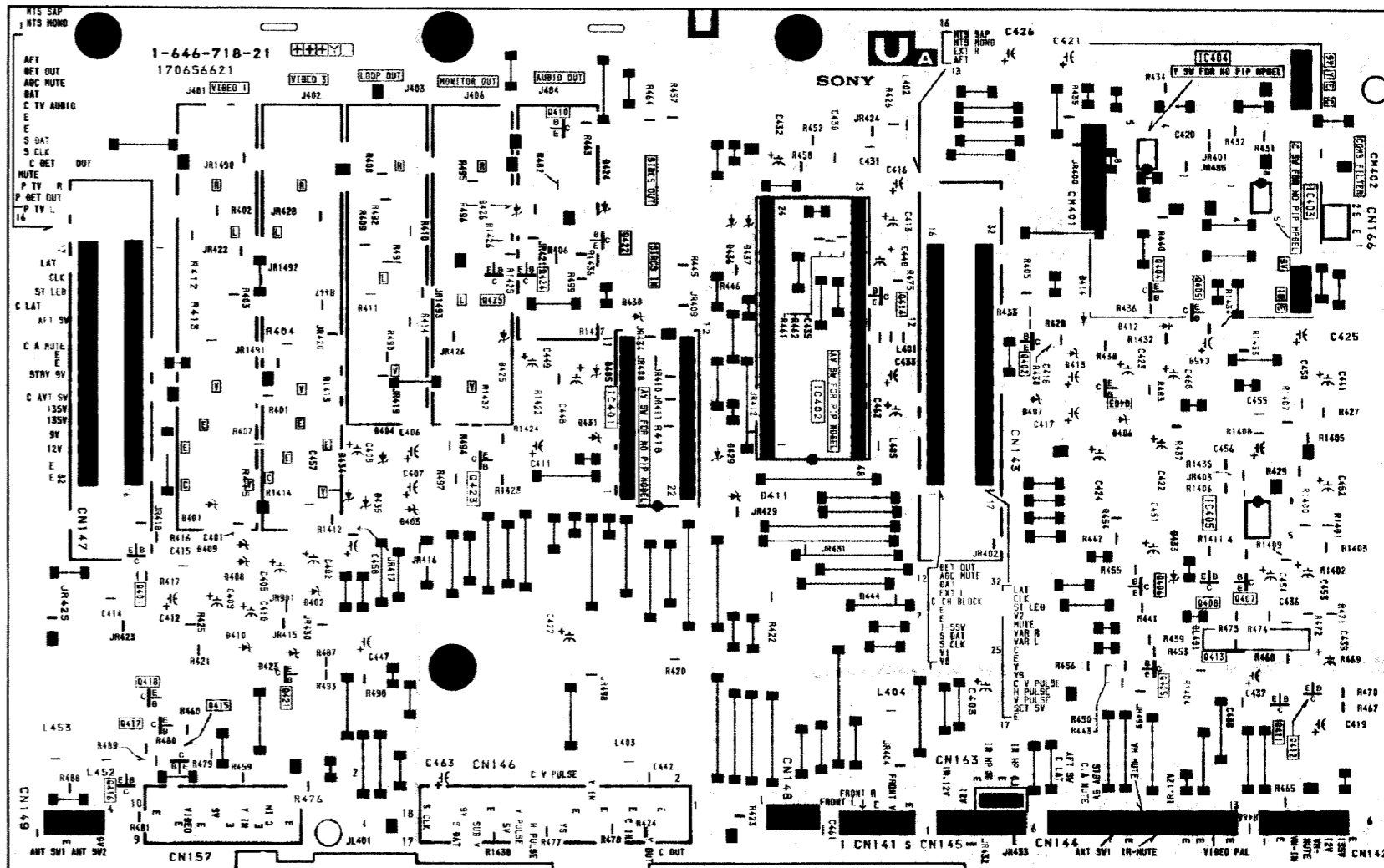


• UA Board IC404 MM1118XFF

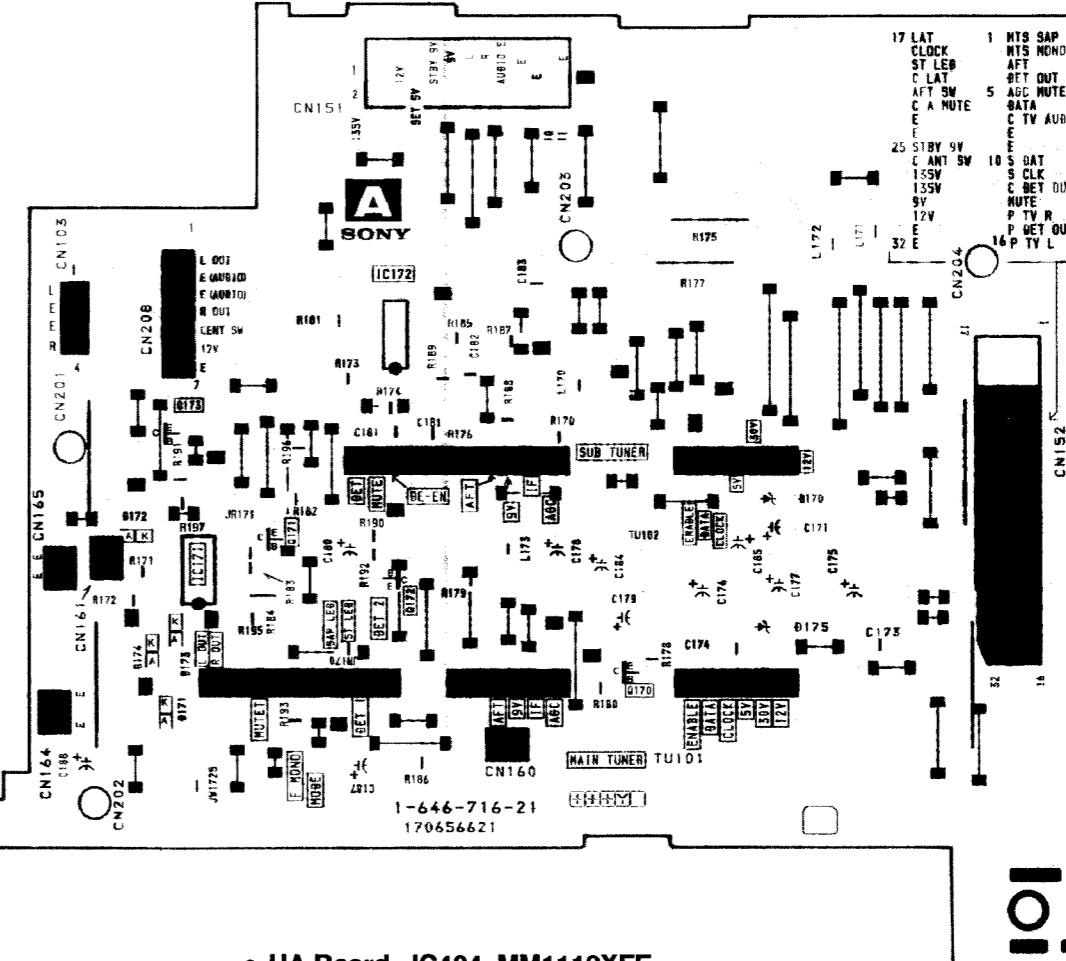


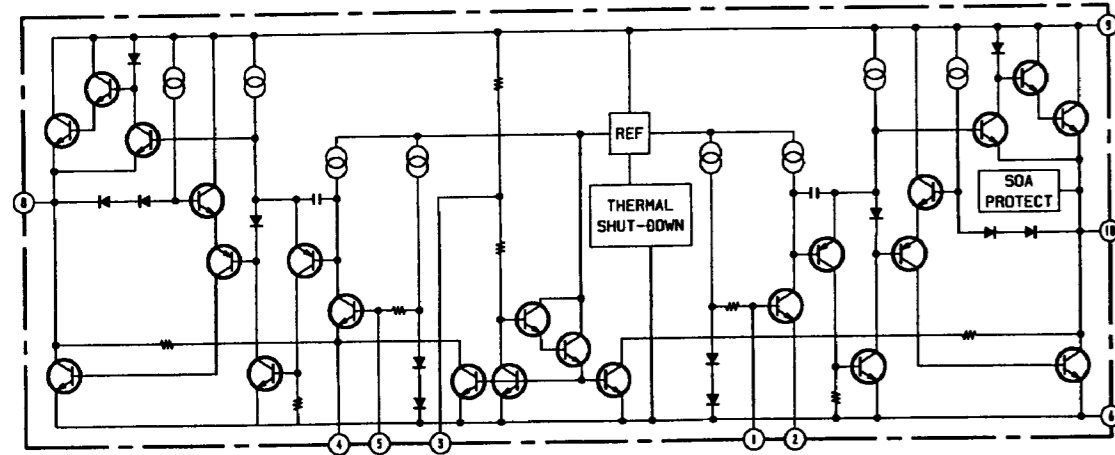
UA [A/V SW, A/V INPUT, A/V OUTPUT] A [TUNER, VIF, MTS]

— UA BOARD — (Conductor Side)

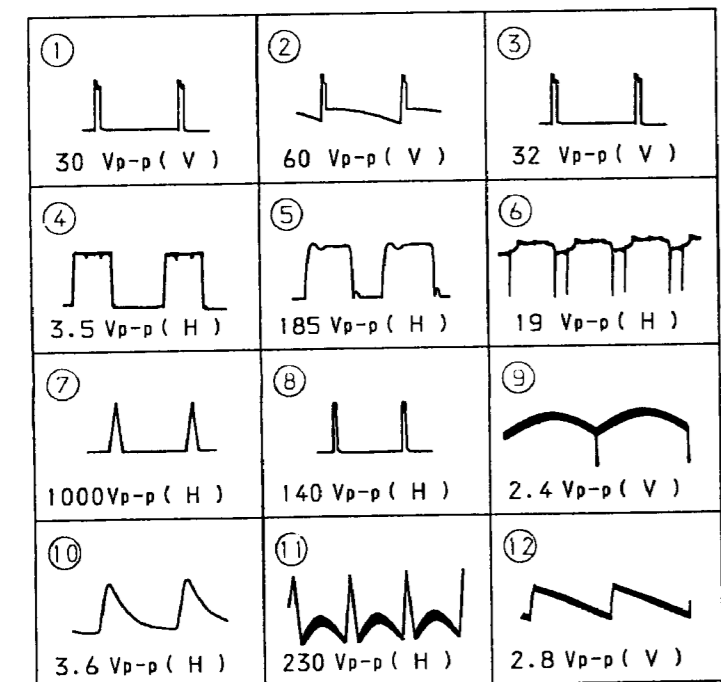


— A BOARD — (Conductor Side)





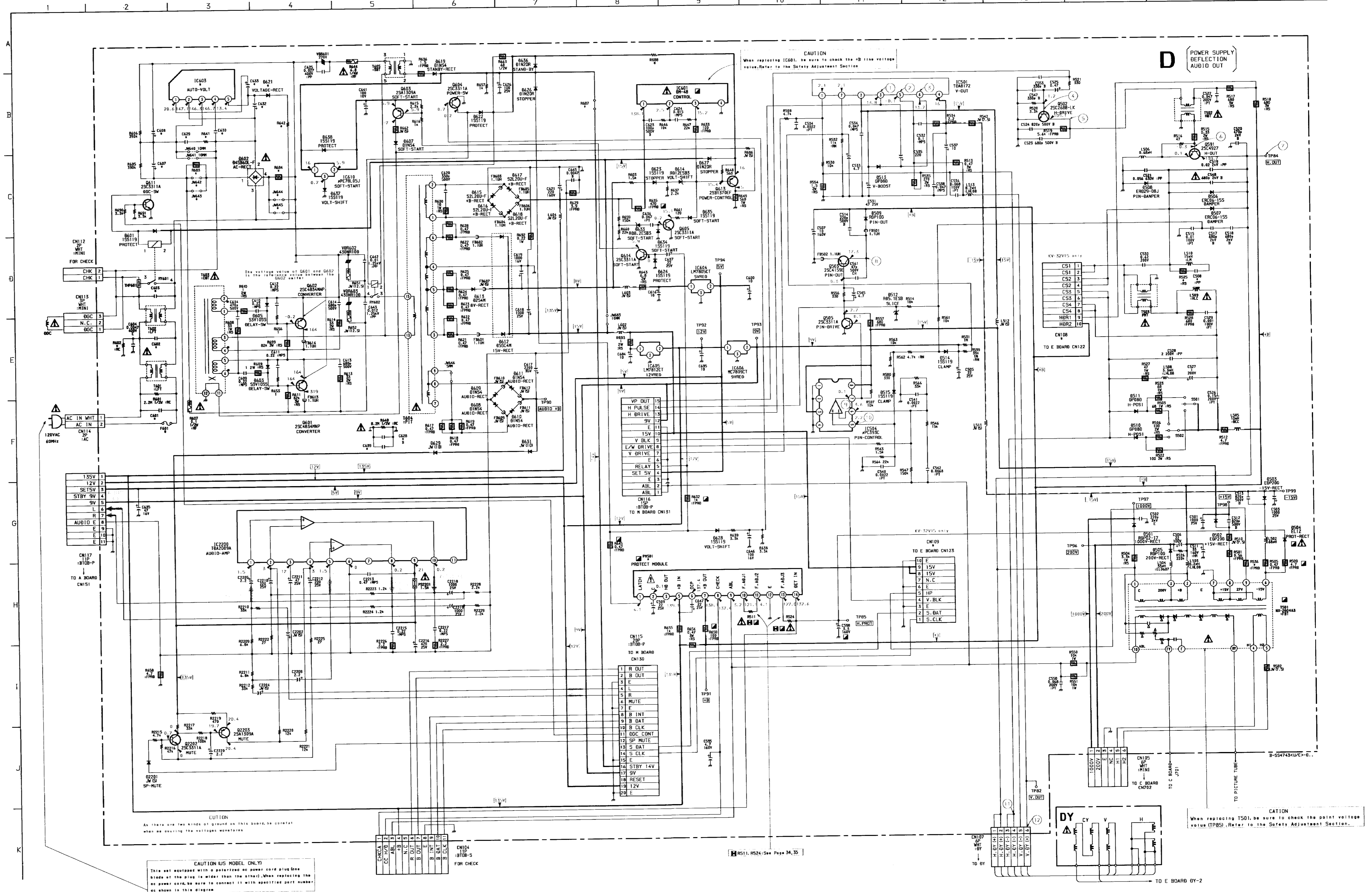
• D BOARD WAVEFORMS



— D BOARD —

Ref	LOCATION	KV-27V10 / 29V10M	KV-27V15	KV-29V10C	KV-32V15
C508	D - 15	0.0022 / 630V	0.0022 / 630V	0.0022 / 630V	-
C601	E - 2	0.47 / 125V	0.47 / 125V	0.47 / 300V	0.47 / 125V
C602	E - 2	0.47 / 125V	0.47 / 125V	-	0.47 / 125V
C603	D - 2	0.47 / 125V	0.47 / 125V	-	0.47 / 125V
C607	C - 2	470 / 200V	470 / 200V	560 / 250V	470 / 200V
C608	B - 2	470 / 200V	470 / 200V	560 / 250V	470 / 200V
C628	F - 5	-	-	470P / 400V	-
C629	B - 2	-	-	0.047 / 200V	-
C630	B - 3	-	-	0.1	-
C632	B - 3	-	-	2.2	-
C633	B - 3	-	-	100	-
C639	F - 5	470P / 400V	470P / 400V	-	470P / 400V
CN108	D - 13	-	-	-	10P
CN109	H - 12	-	-	-	10P
D621	B - 4	-	-	RGPO2-17	-
F601	F - 2	6.3A/125V	6.3A/125V	6.3A/250V	6.3A/125V
IC603	B - 3	-	-	STR81159A	-
JW640	B - 3	10MM	10MM	-	10MM
JW641	B - 3	10MM	10MM	-	10MM
JW642	C - 3	10MM	10MM	-	10MM
JW643	C - 3	10MM	10MM	-	10MM
JW644	C - 4	10MM	10MM	-	10MM
JW645	C - 4	10MM	10MM	-	10MM
JW681	-	-	-	10MM	-
JW682	-	-	-	10MM	-
PM501	H - 9	PM-38	PM-38	PM-38	PM-39
R525	D - 15	47 / 2W	47 / 2W	47 / 2W	-
R536	H - 15	-	-	-	4.7
R602	E - 2	2.2M 1/2W	2.2M 1/2W	8.2M / 1W	22M 1/2W
R641	B - 3	-	-	4.7 1/4W	-
R642	B - 4	-	-	2.2 1/4W	-
R683	C - 3	-	-	1 10W	-
R684	C - 4	-	-	1 10W	-
R687	B - 7	6.8 / 1W	6.8 / 1W	JW(12.5)	6.8 / 1W

— : NOT MOUNT

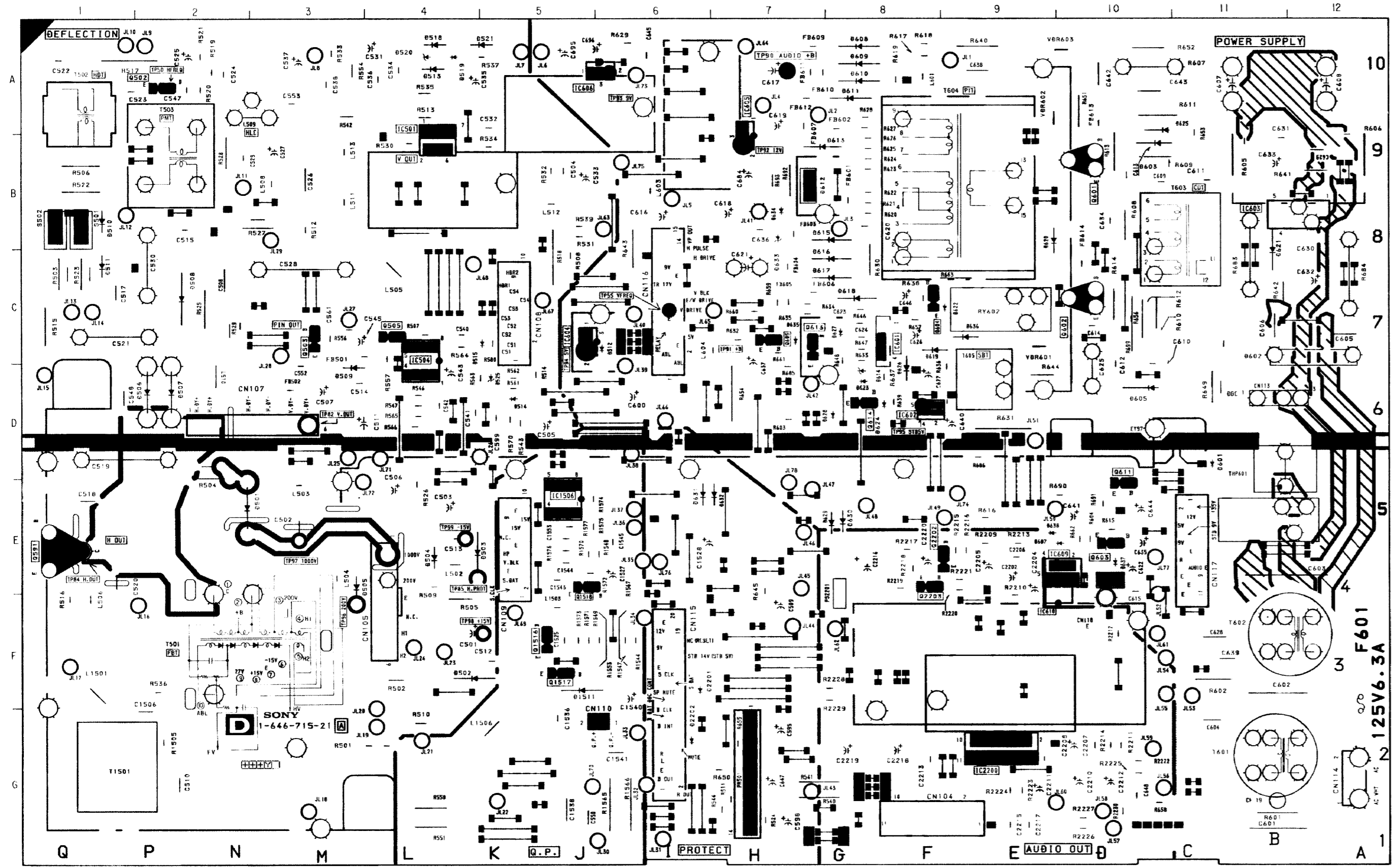


D POWER SUPPLY,
DEFLECTION,
AUDIO OUT

KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y117 RM-Y121
RM-CM101 RM-CM101

KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y117 RM-Y121
RM-CM101 RM-CM101

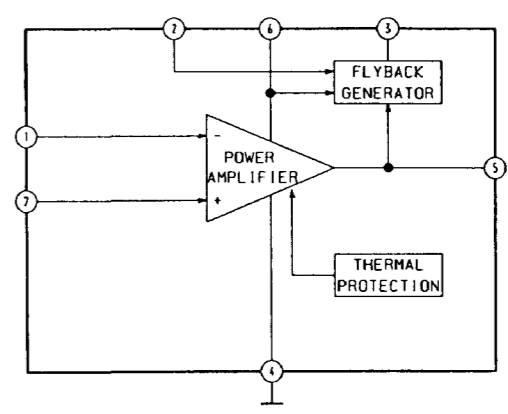
— D BOARD — (Conductor Side)



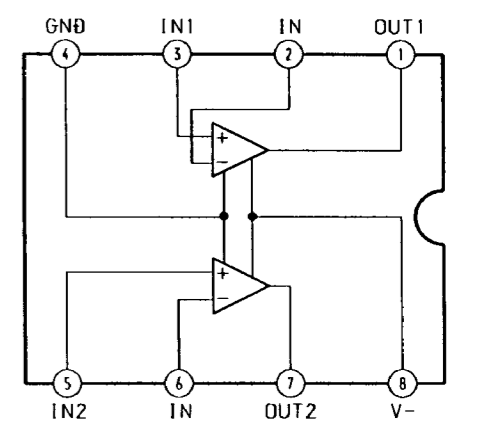
IC	
IC501	A-4
IC504	C-4
IC601	C-8
IC603	B-11
IC604	C-5
IC605	A-7
IC606	A-5
IC610	F-10
IC2200	G-9
TRANSISTOR	
Q502	A-2
Q503	C-3
Q505	C-4
Q591	E-1
Q601	B-10
Q602	C-10
Q603	E-10
Q604	C-8
Q605	C-7
Q611	E-10
Q613	C-7
Q614	D-8
Q2202	E-8
Q2203	E-8
DIODE	
D501	E-3
D502	F-4
D503	E-4
D504	E-4
D505	E-3
D506	D-2
D507	D-2
D508	C-2
D509	D-3
D510	B-1
D511	C-1
D512	C-6
D513	A-4
D514	D-5
D515	C-4
D601	D-11
D602	C-11
D603	B-10
D605	D-10
D607	E-10
D608	A-8
D609	A-8
D610	A-8
D611	A-8
D612	B-7
D613	B-8
D614	D-8
D615	B-8
D616	C-8
D617	C-8
D618	C-8
D619	C-8
D622	C-9
D623	D-8
D624	D-8
D626	D-8
D627	C-8
D628	D-8
D633	B-7
D634	B-7
D635	C-8
D636	C-9
D637	E-10
D638	E-10

NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

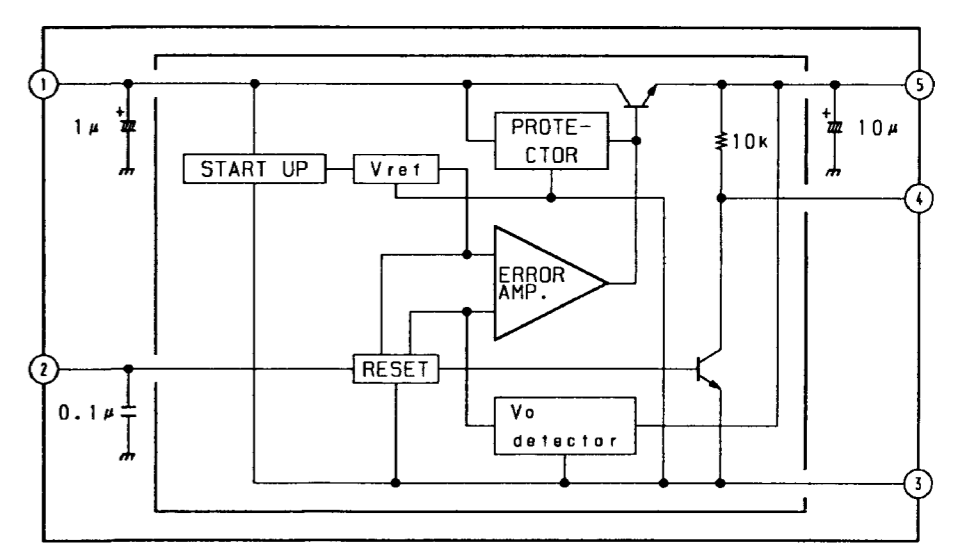
• D Board IC501 TDA8172



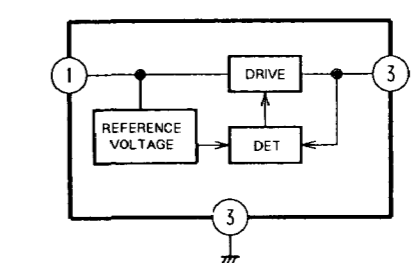
• D Board IC504 μ PC393C



• D Board IC602 L78LR05D



• D Board IC610 μ PC78L05J



● **M Board IC101**



The block diagram illustrates the digital control system for a color monitor. It features several interconnected components:

- Input Section:** Includes a CLAMP input (H) and a SYNC input (H).
- Timing and Synchronization:** A SYNC SUCER receives the SYNC input and provides a LOCK signal to the VERTICAL COUNTER AND CONTROL. It also outputs COMP SYNC to the TIMING LOGIC. A DATA SUCER provides SUBC DATA to the DATA RECOVERY block and a DATA CLK signal to the DATA CLK RECOVERY block.
- Counters and Timing:** The VERTICAL COUNTER AND CONTROL outputs a LOCK signal to the TIMING LOGIC. The HORIZONTAL COUNTER outputs a BOT CLK signal to the TIMING LOGIC.
- Control and Processing:** The TIMING LOGIC provides signals to the COMMAND PROCESSOR and the OUTPUT LOGIC. The COMMAND PROCESSOR also receives signals from the DATA RECOVERY block and the DATA MODULATOR AND TRANSFER BUFFER. The DATA RECOVERY block receives SUBC DATA from the DATA SUCER and outputs DATA CLK to the DATA CLK RECOVERY block. The DATA MODULATOR AND TRANSFER BUFFER receives signals from the COMMAND PROCESSOR and the DATA RECOVERY block.
- Memory and Output:** The COMMAND PROCESSOR is connected to the DISPLAY RAM and the CHARACTER ROM. The CHARACTER ROM outputs to the OUTPUT LOGIC, which then outputs to the monitor's output lines (1-5).
- Feedback and Frequency Control:** A PHASE/FREQUENCY DETECTOR receives a signal from the output and provides a feedback signal to the LOOP FILTER. The LOOP FILTER outputs to the VCO, which provides a BOT CLK signal to the HORIZONTAL COUNTER.



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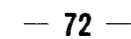
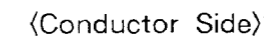
KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101

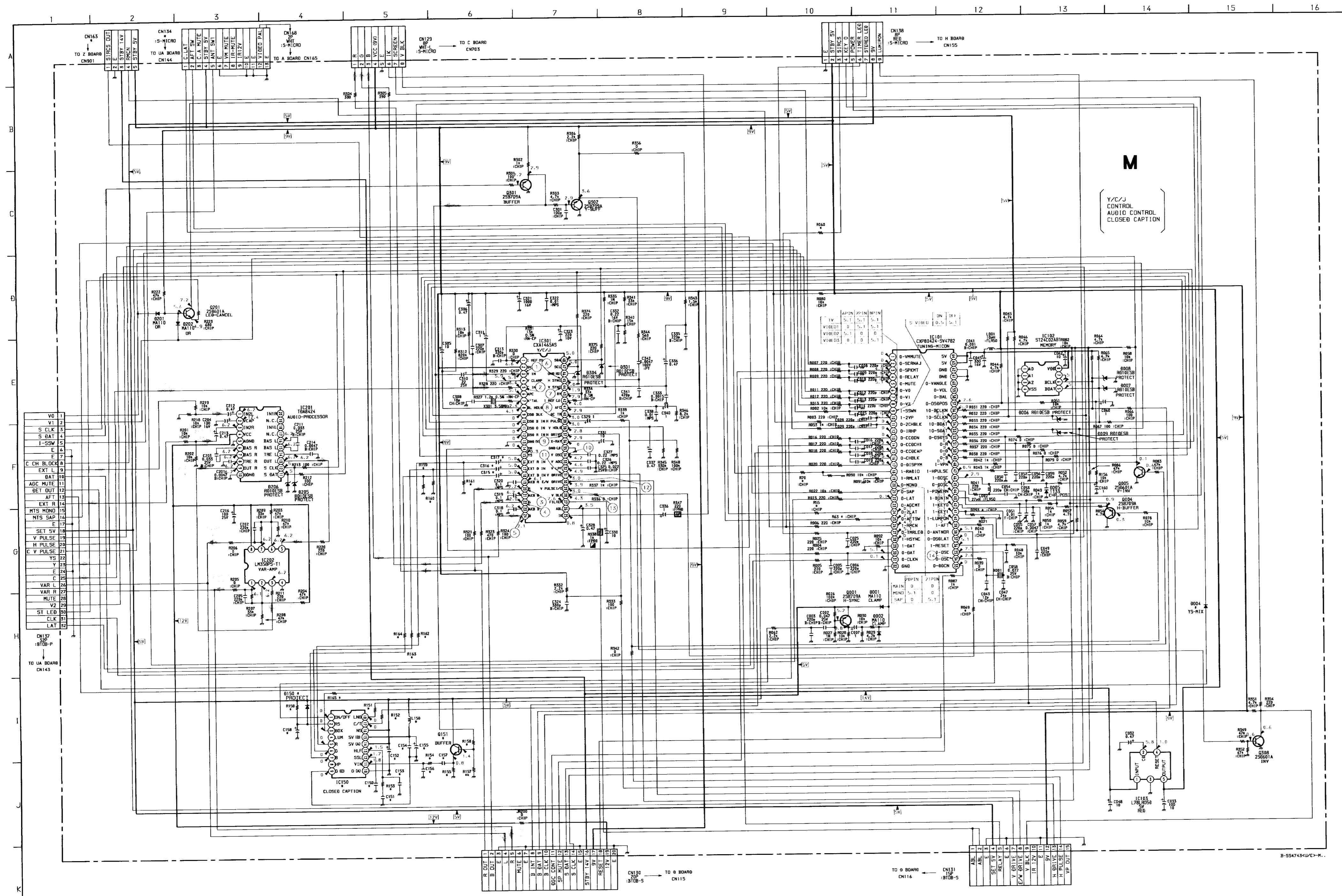
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y117 RM-Y121
RM-CM101

— M BOARD —

Component Side

-  : Pattern from the side which enables seeing.
-  : Pattern of the rear side.



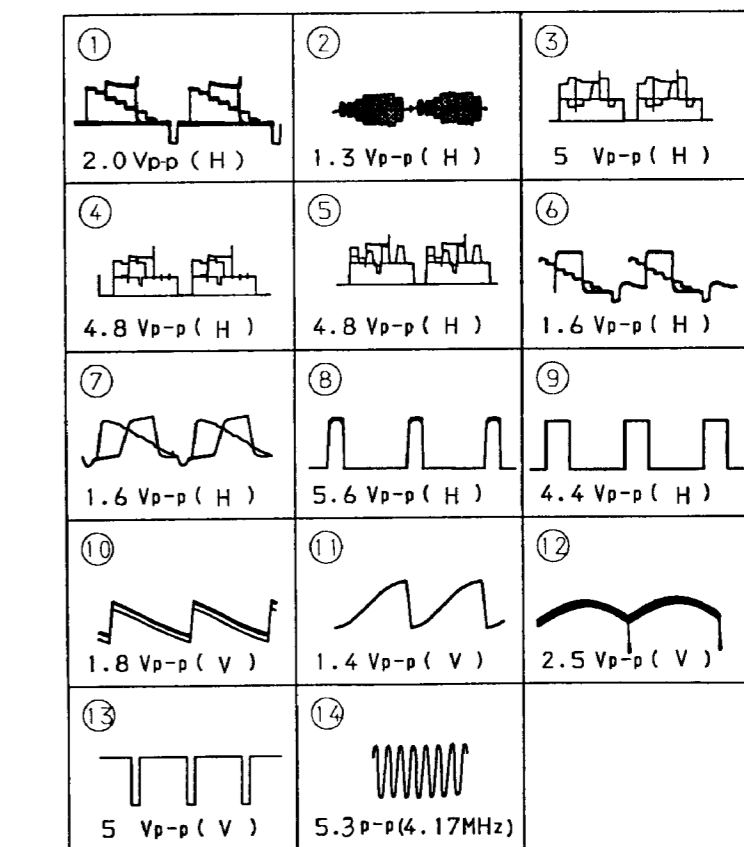


M BOARD

Ref	LOCATION	KV-27V10/ 27V15/32V15	KV-28V10C/ 10M
C150	J-5	0.1	-
C151	J-5	0.0088	-
C152	I-5	10	-
C153	I-5	0.0033	-
C154	I-5	0.1/25V	-
C155	I-5	10	-
C156	I-6	560P	-
C157	I-6	0.1/25V	-
C158	I-4	1	-
C315	F-8	10	-
C316	F-8	10	-
C317	F-8	10	-
CN134	A-3	6P	-
CN163	A-2	5P	-
D004	G-15	MA110	-
D150	H-4	MA110	-
IC150	I-4	MC144143	-
L150	I-5	10 μ H	-
Q151	I-6	2SD601A	-
R055	F-10	220	-
R060	C-10	18K	0
R063	F-10	220	-
R069	G-12	220	-
R070	F-10	1K	-
R090	F-10	-	-
R150	H-4	100K	-
R151	I-5	1K	-
R152	I-5	1K	-
R153	I-5	6.8K	-
R154	I-5	470	-
R155	I-6	1K	-
R157	I-6	10K	-
R158	I-6	10K	-
R159	F-5	1K	-
R160	F-5	1K	-
R161	F-6	1K	-
R162	G-5	4.7K	-
R163	H-5	4.7K	-
R164	H-5	4.7K	-
R165	H-4	4.7K	-
R166	I-4	1K	-
R168	I-4	1K	-

-- NOT MOUNT

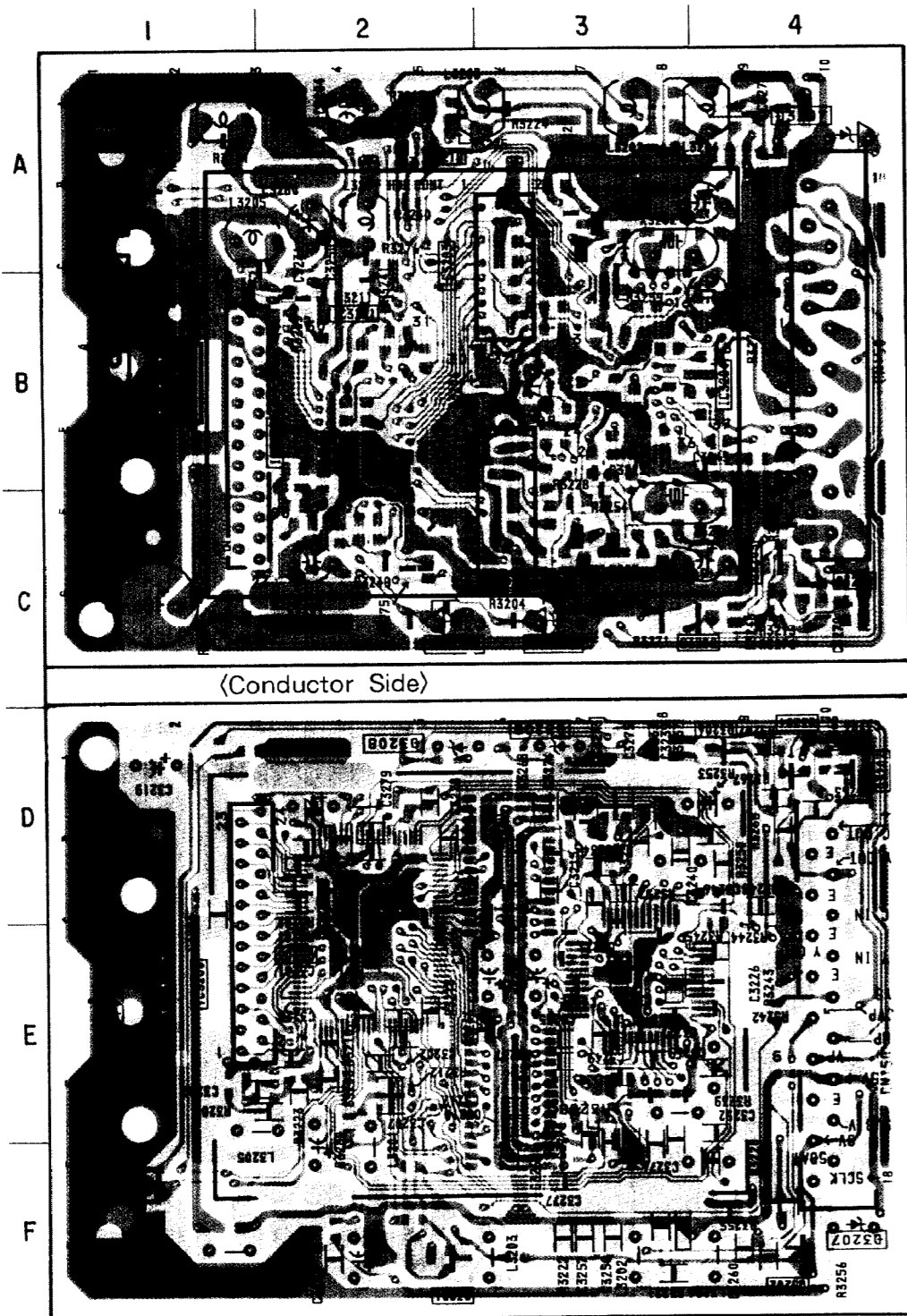
M BOARD WAVEFORMS



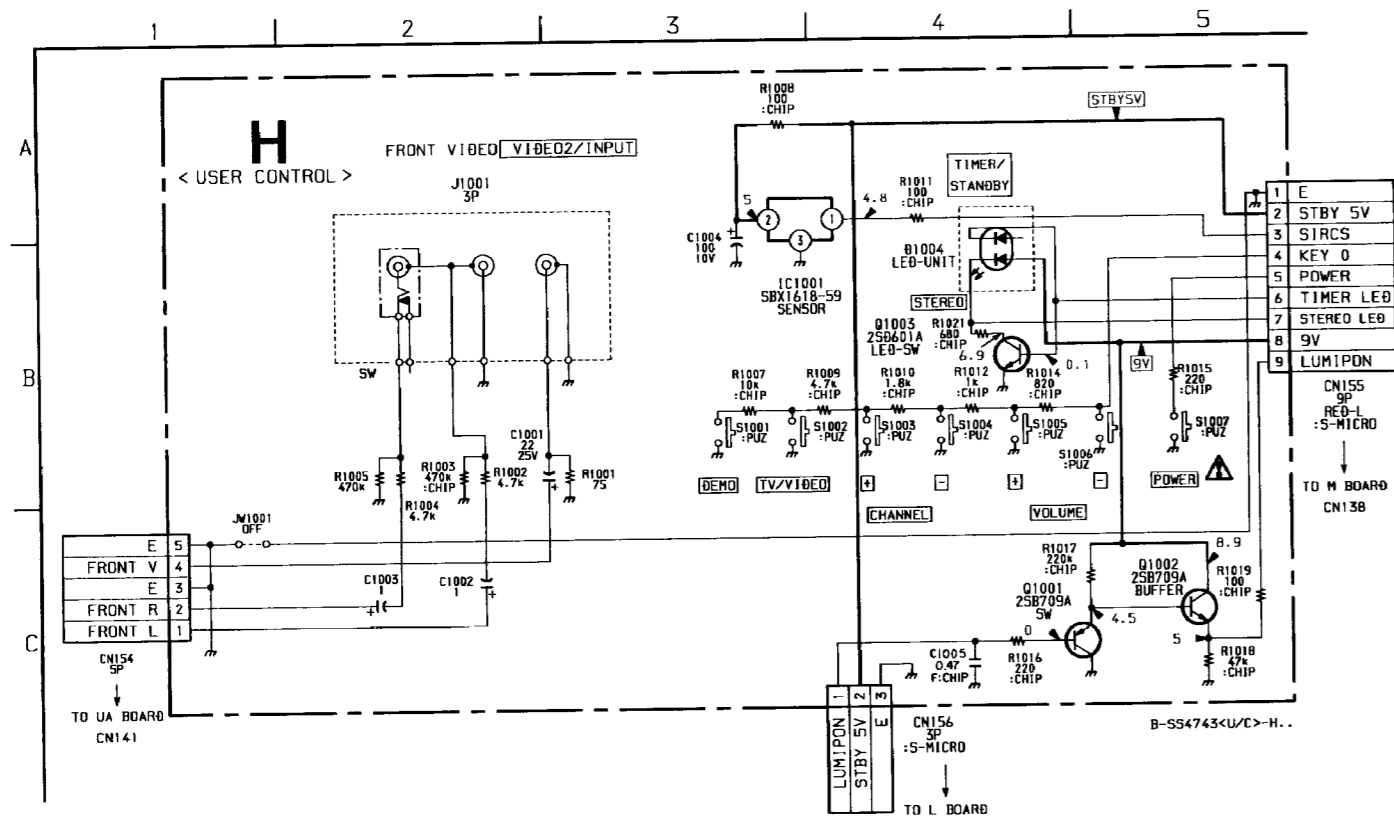
P [PICTURE IN PICTURE] **H** [USER CONTROL]

- P BOARD - (Component Side) (KV-27V15/32V15 only)

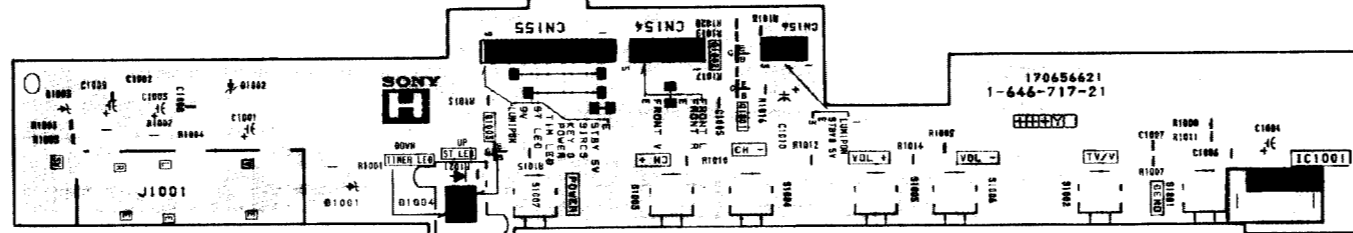
IC	
IC3200	B-1, E-1
IC3201	B-1
IC3202	C-3
IC3203	A-3
IC3204	B-3
IC3205	B-1
TRANSISTOR	
Q3201	F-2
Q3202	F-4
Q3203	C-4
Q3204	D-4
Q3206	D-4
Q3207	D-4
Q3208	C-4
Q3209	C-9
Q3210	A-2
DIODE	
D3202	B-1
D3203	D-2
D3208	C-2, D-2
D3209	C-3, D-3



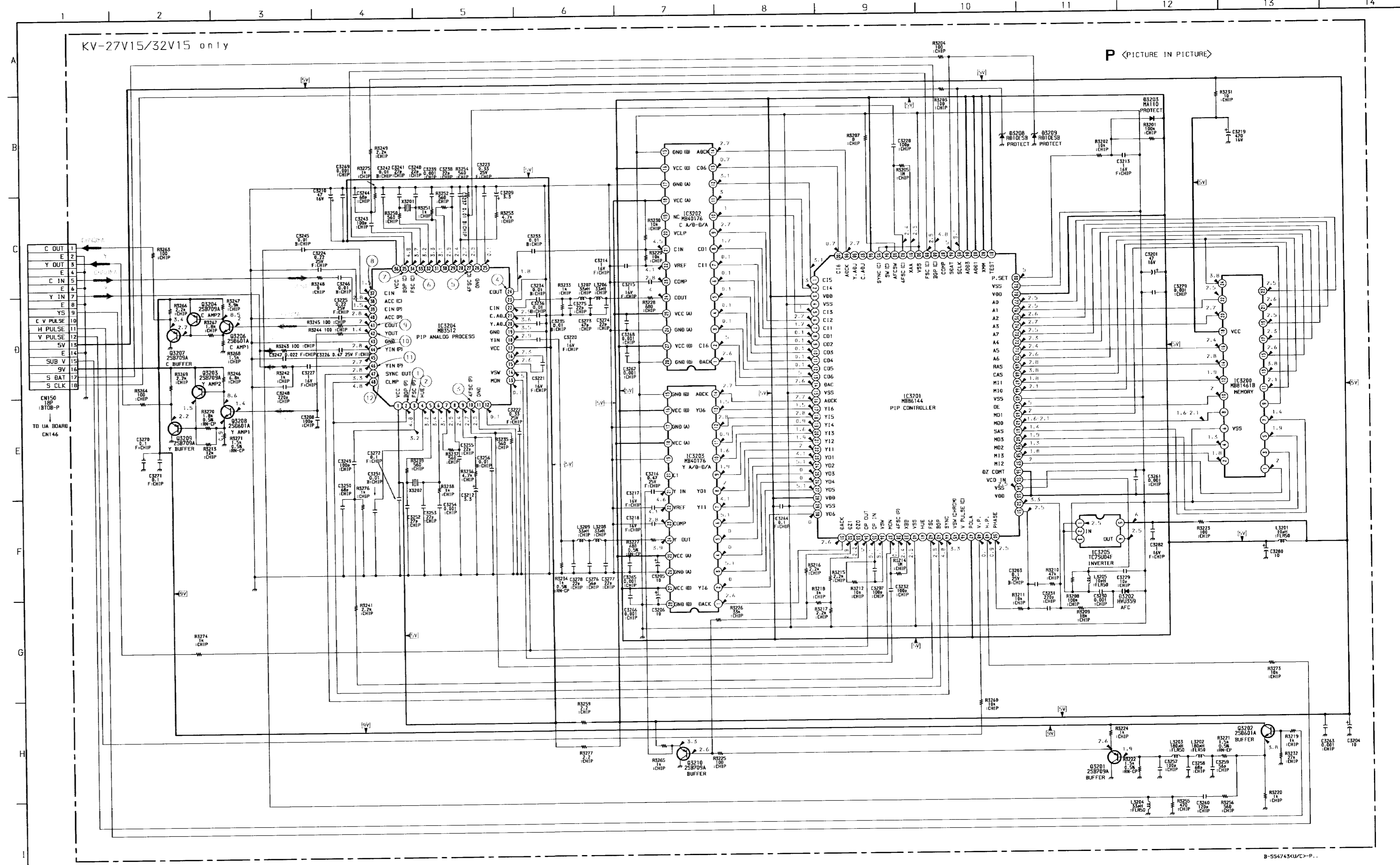
Note:
• : Pattern from the side which enables seeing.
• : Pattern of the rear side.



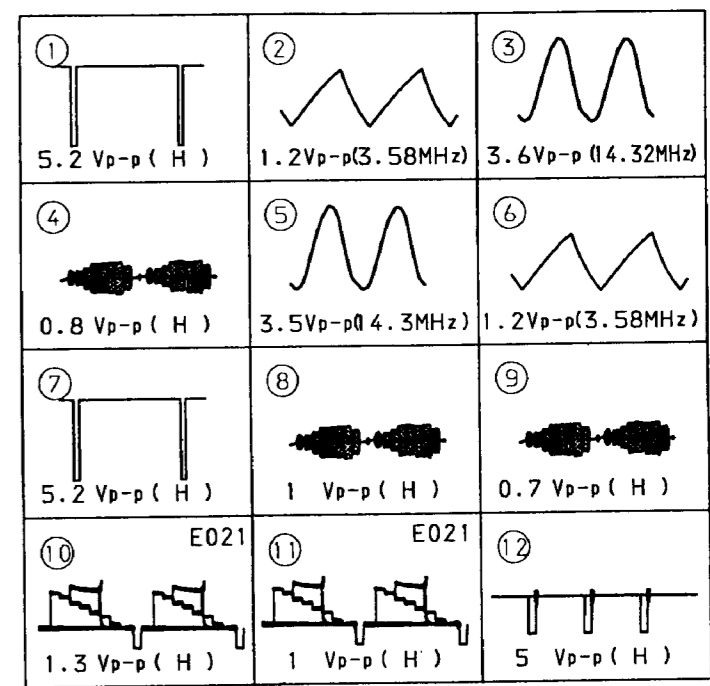
- H BOARD - (Conductor Side)



(KV-27V15/32V15 only)



• P BOARD WAVEFORMS



KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y117 RM-Y121
RM-CM101

KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101

KV-29V10C/29V10M/32V15
RM-Y117 RM-Y117 RM-Y121
RM-CM101

E <DYNAMIC CONVERGENCE>

B-SS4792<U. .>-E.

– E BOARD – 〈Conductor Side〉

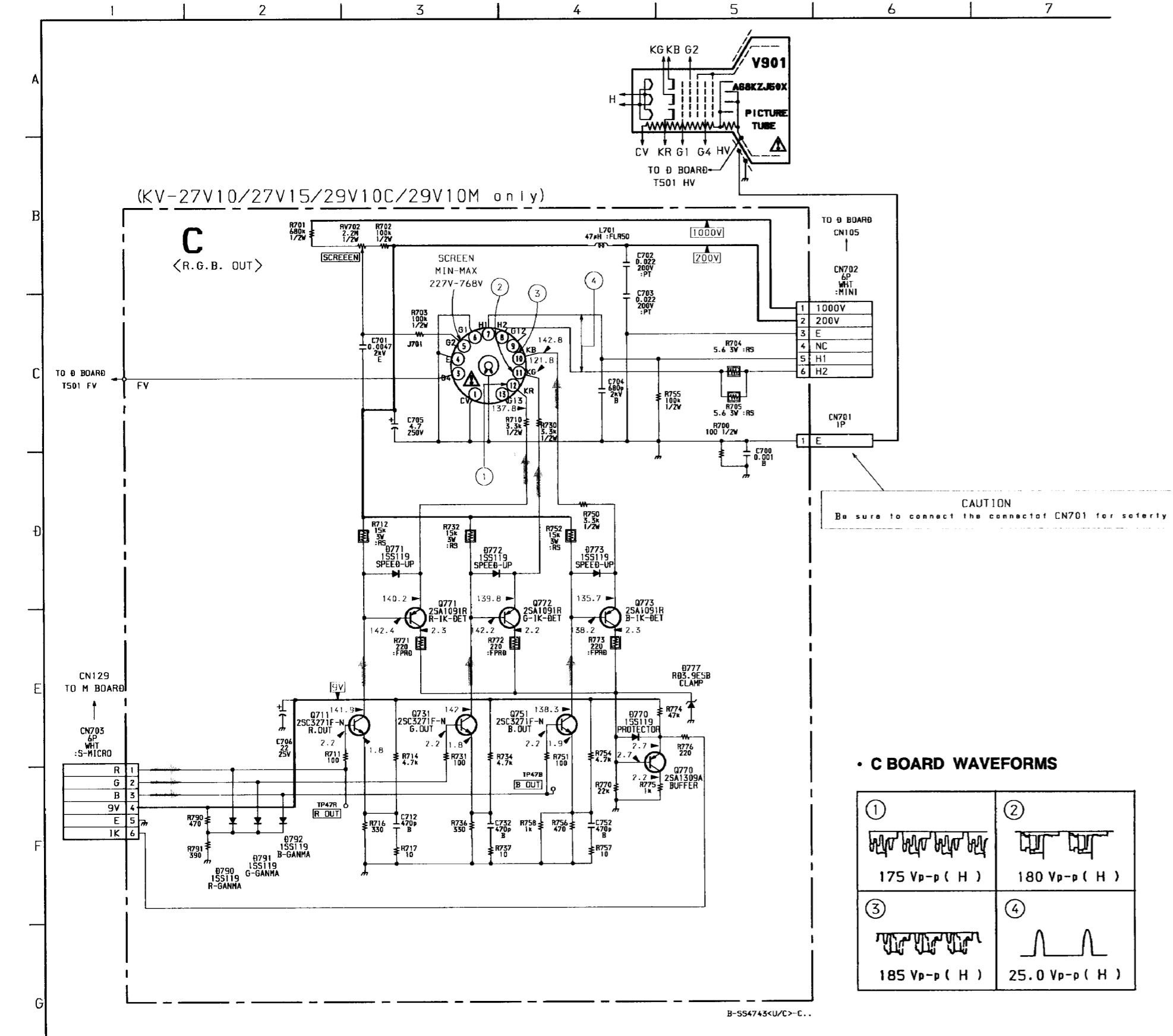
<p>①</p>  <p>1.2 Vp-p (V)</p>	<p>②</p>  <p>2.6 Vp-p (V)</p>	<p>③</p>  <p>9.2 Vp-p (H)</p>
<p>④</p>  <p>9.2 Vp-p (V)</p>	<p>⑤</p>  <p>1.6 Vp-p (H)</p>	<p>⑥</p>  <p>4.4 Vp-p (H)</p>
<p>⑦</p>  <p>2.2 Vp-p (V)</p>	<p>⑧</p>  <p>1 Vp-p (V)</p>	<p>⑨</p>  <p>2 Vp-p (V)</p>

← **E** board

C board

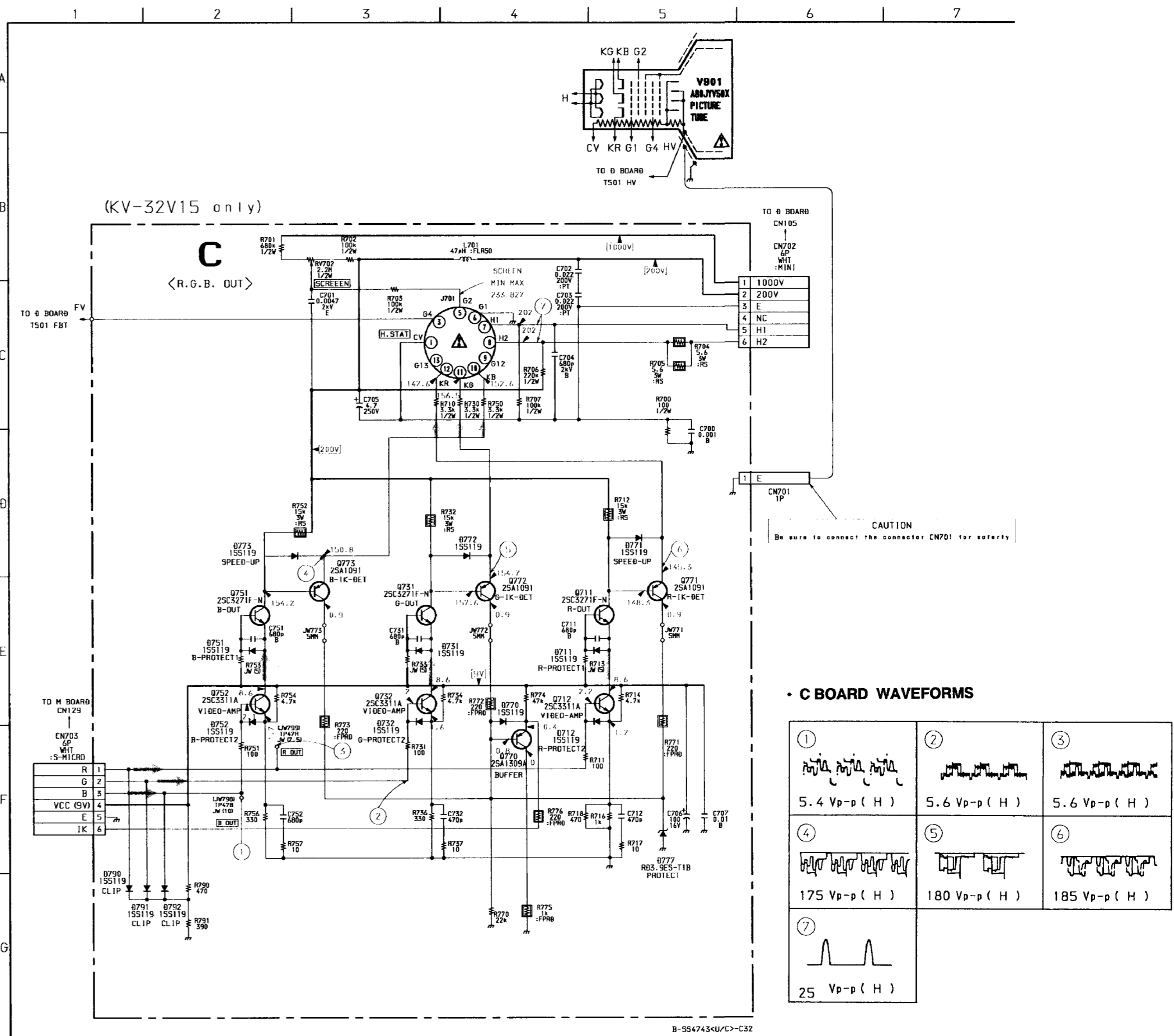
KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y121 RM-CM101

(KV-27V10/27V15/29V10C/29V10M only)

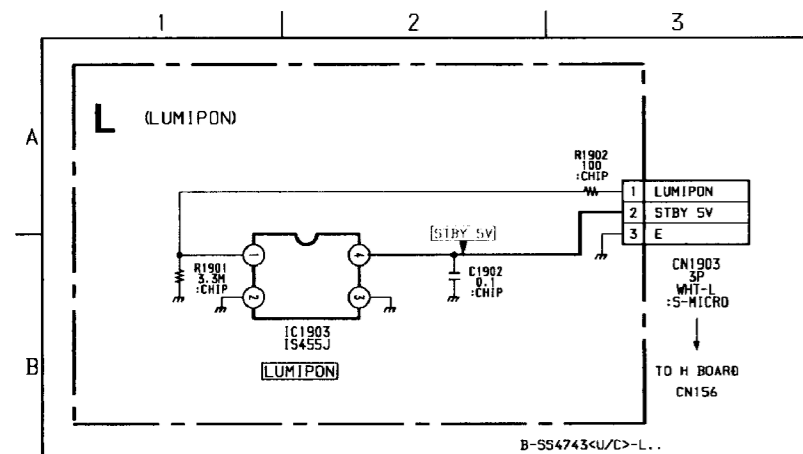
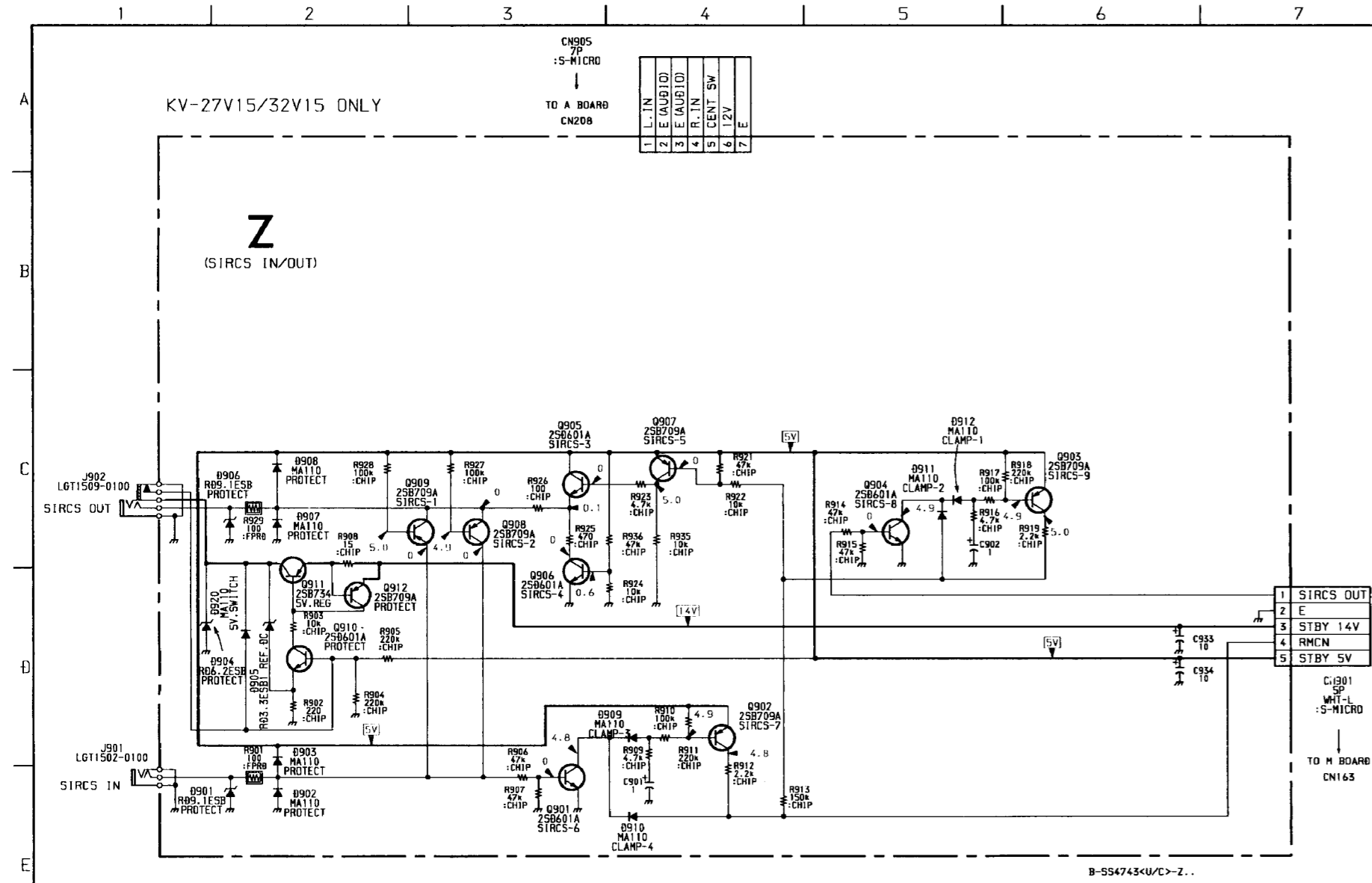


KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y121 RM-CM101

(KV-32V15 only)



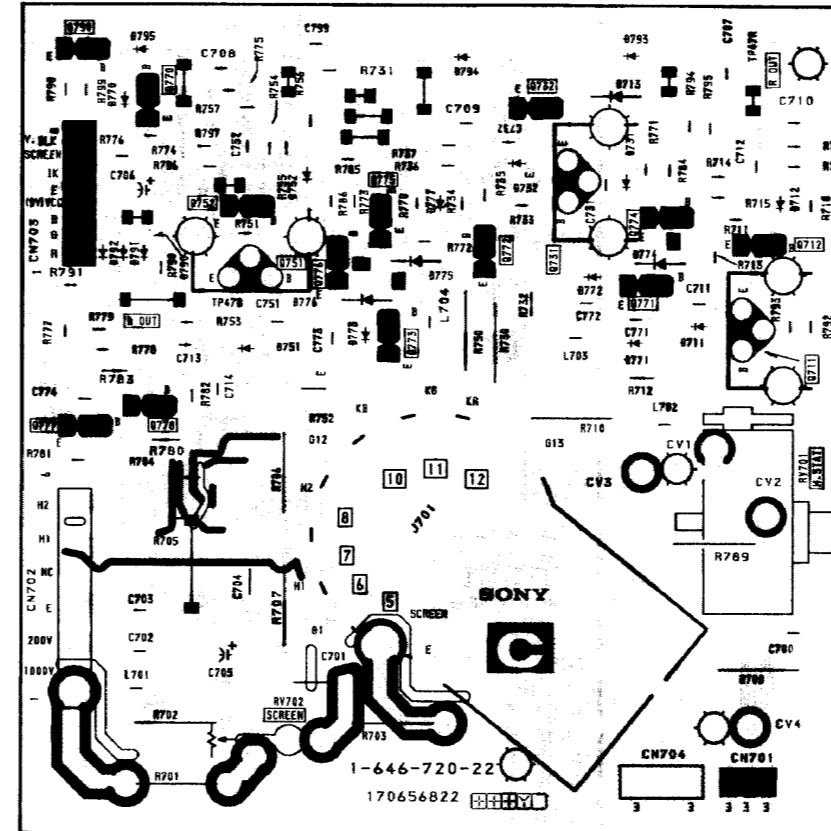
(KV-27V15/32V15 only)



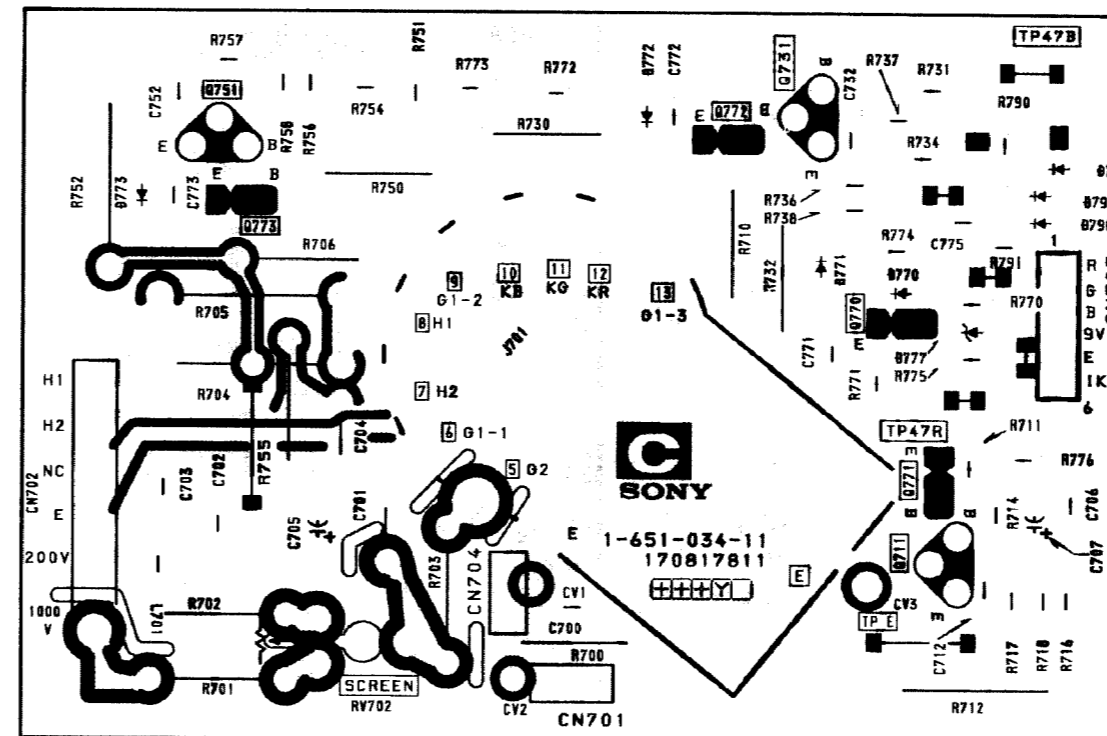
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C_[R. G. B. OUT] **Z**_[SIRCS IN/OUT] **L**_[LUMIPON]

- C BOARD - (KV-32V15 only) 〈Conductor Side〉



- C BOARD - (KV-27V10/27V15/29V10C/29V10M only) 〈Conductor Side〉

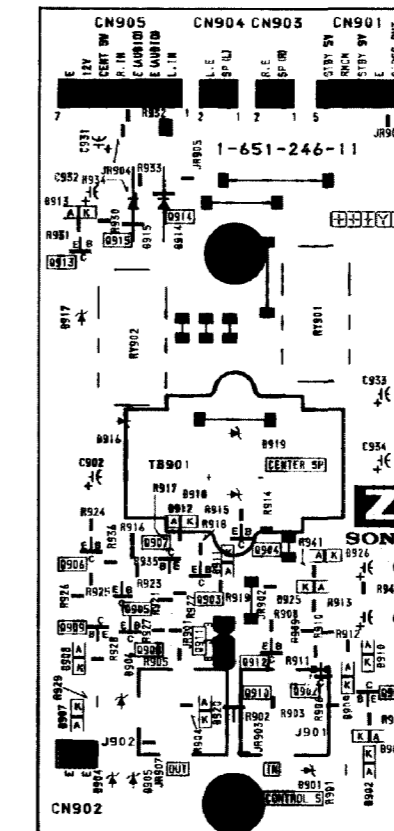


Schematic diagrams

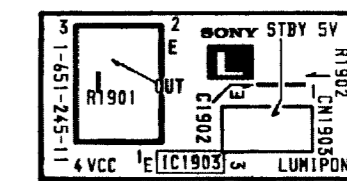
← **L** **Z** boards

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– Z BOARD – (KV-27V15/32V15 only)



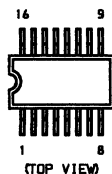
— L BOARD — 〈Conductor Side〉



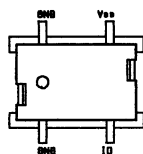
— 89 —

6-5. SEMICONDUCTORS

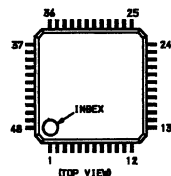
BU4053BF
CXA1315M



IS4555



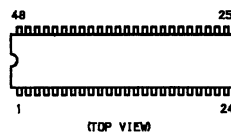
MB3512PFQ-G-BND-EF



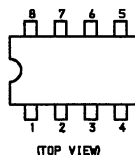
SI-3120C



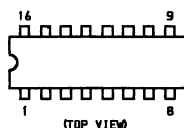
CXA1213BS
CXA1465AS
CXA1545AS



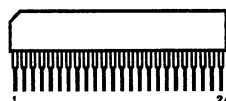
LM358P
ST24C02AB1
ST24C01B1
μPC358C
μPC393C
24C02A1/P



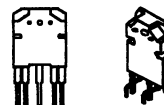
CXA1526P
MB40176PF-G-BND-EF



MB81461B-12RS-PSZ



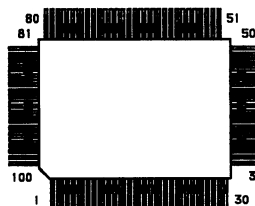
STR81159A



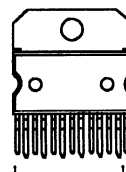
TC7SU04F



MB86144BPF-G-BND



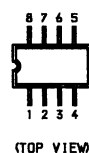
TDA2009A
TDA7262



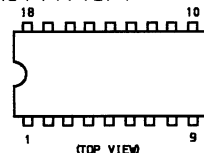
CXP80424-SV4782
CXP80424-SV4789
CXP85228-SV4745



LM358PS
MM1114XFF
MM1118XFF



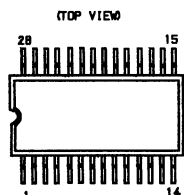
MC144143P1



TDA8172



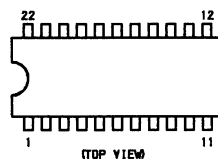
CXP80424-077S



LM7805CT
LM7812CT
MC7809CT
NJM78M09FA
NJM7812FA



M52470AP
M52470P



TDA8424



DM-48
PM-38
PM-39



MARKING SIDE VIEW

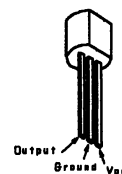
L78LR05D-MA



NJM78L05A



μPC78L05J



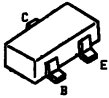
SBX1618-H9
SBX1618-51



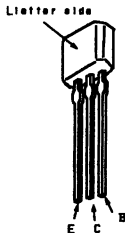
2SA1091-O
2SA1091-R
2SC2551-O



2SA1162G
2SB709A
2SD601A



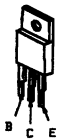
2SA1175-HFE
2SA1309A
2SC2785-HFE
2SC3311A



2SA1306A-Y



2SB1370-EF
2SC3298A-Y
2SC4159-E
2SC4793
2SD2012
2SD2061



2SB733
2SB734
2SC3733
2SD774



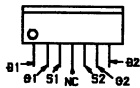
2SC2611
2SC2688-LK
2SC3271F-N



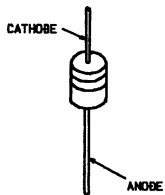
2SC4834MNP



2SC4927-01
2SC4927-02



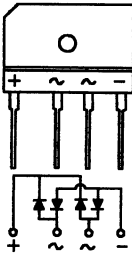
Ø1NS4
Ø1N20R
ERA82-004TP
ERA83-006
ERA85-009
RØ10ESB
RØ10ESB1
RØ10ESB2
RØ12ESB3
RØ13ESB2
RØ3.3ESB2
RØ3.9ESB2
RØ33ESB1
RØ39ESB4
RØ5.1ESB
RØ5.1ESB1
RØ6.2ESB2
RØ8.2ESB3
RØ9.1ESB1
RØ9.1ESL
1SS119



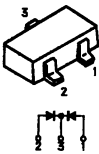
Ø2S4MF
Ø2S4MTA1



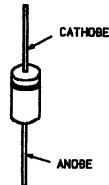
Ø4SB60L



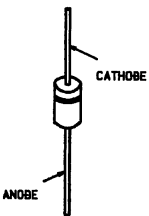
Ø5SC4M



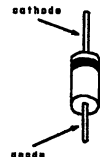
EGP20G
EL1Z
GPØ8Ø
RGP02-17EL-6433
RGP10GPKG3
RGP10GPKG23
1SS83



ERA81-004
ERA83-006
ERC06-15S
S2L20UF
S3V10SS



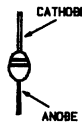
ERØ29-Ø8J



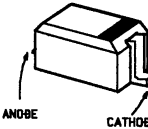
ES1F-LF-G2



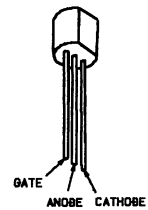
GPØ8ØPKG3



HVU359TRF
MA110
1T33



SHØR3Ø42



SECTION 7 EXPLODED VIEWS

NOTE:

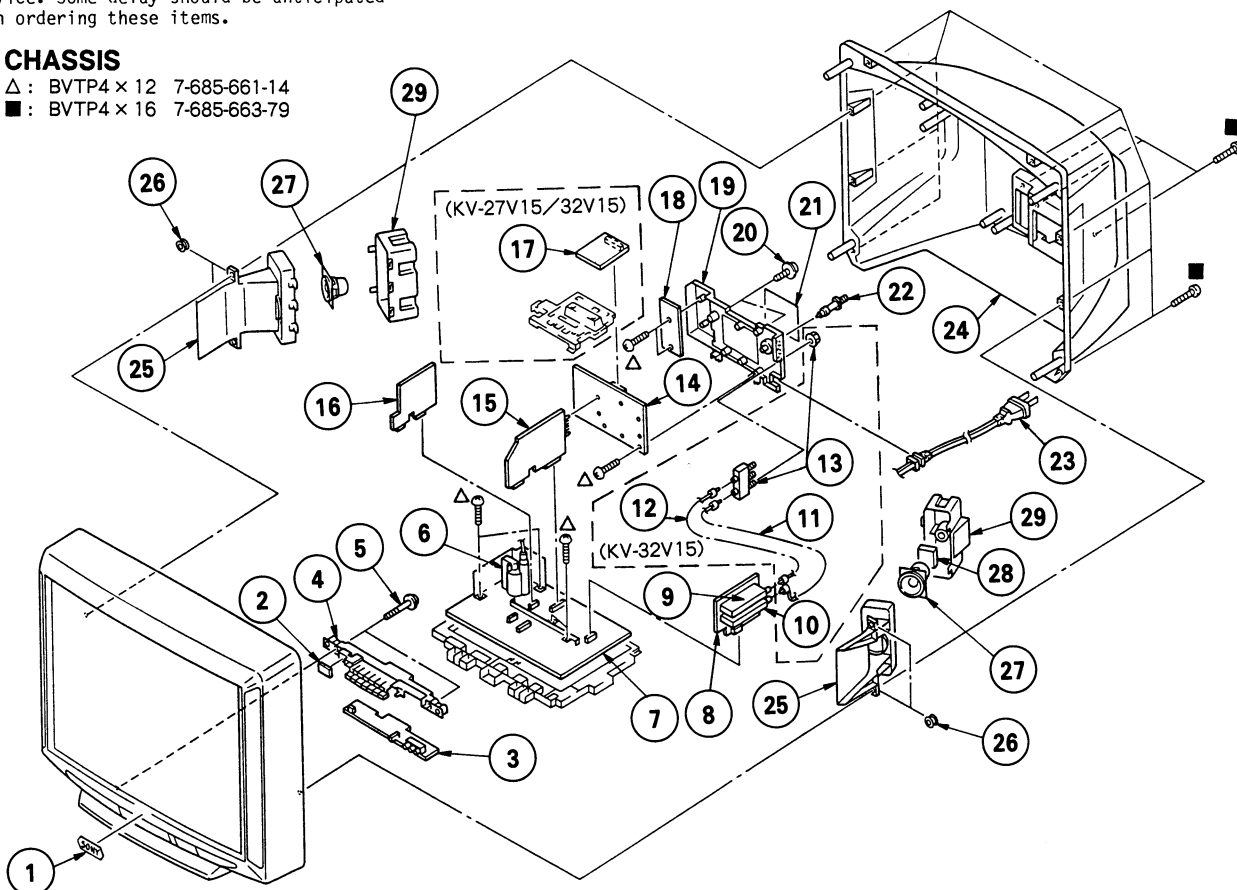
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark Δ are critical for safety.
 Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
 Ne les remplacer que par une pièce portant le numéro spécifié.

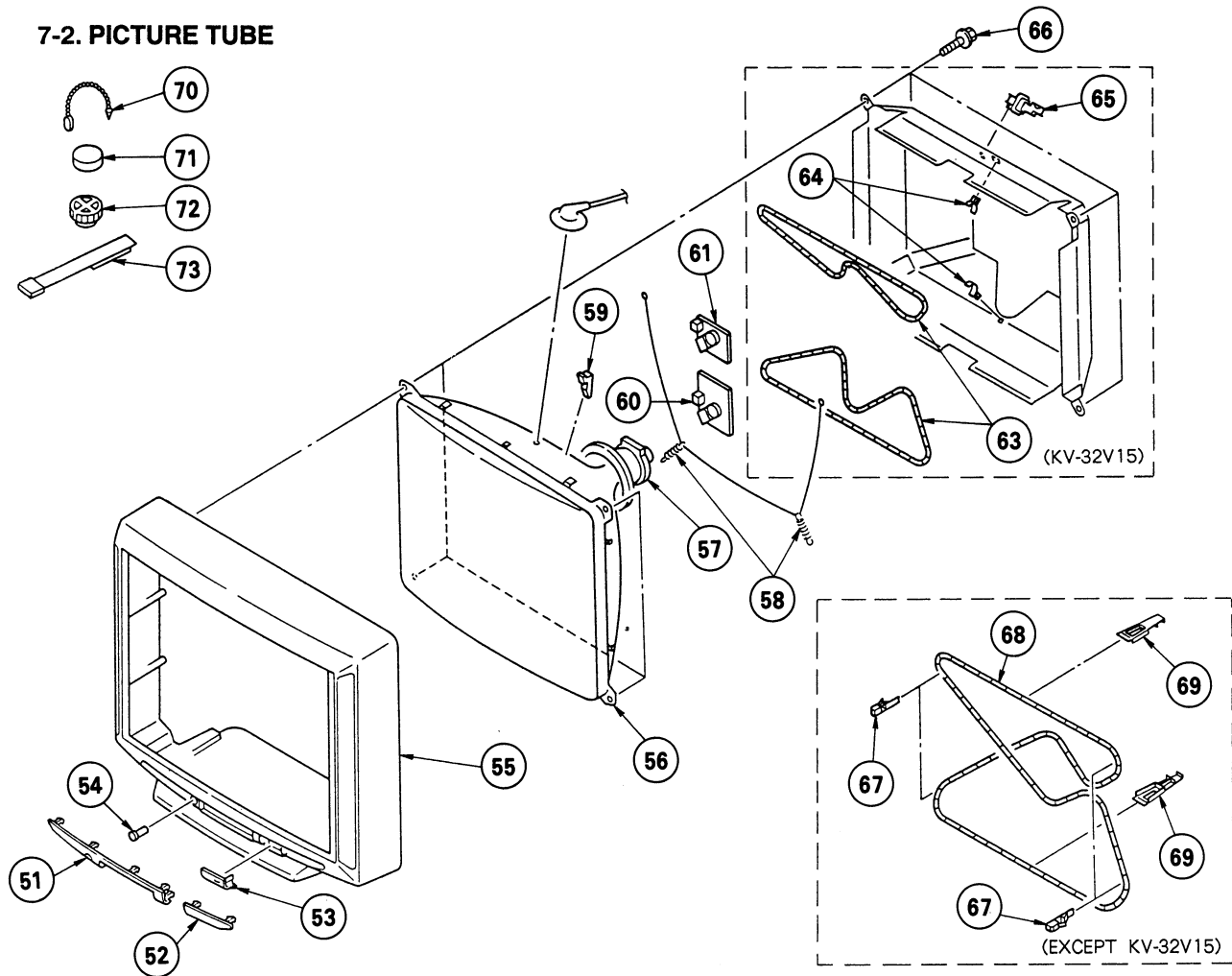
7-1. CHASSIS

- Δ : BVTP4 \times 12 7-685-661-14
 ■: BVTP4 \times 16 7-685-663-79



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	4-394-048-01	EMBLEM (NO.9), SONY		16	*A-1341-622-A	E BOARD, COMPLETE (KV-32V15)	
2	*1-651-245-11	L BOARD		17	*A-1195-062-A	P BOARD, COMPLETE (KV-27V10/29V10M)	
3	*1-646-717-11	H BOARD		18	A-1390-411-A	Z BOARD, COMPLETE (KV-27V15/32V15)	
4	4-043-580-01	BUTTON, MULTI		19	4-039-517-11	PANEL, ANTENNA TERMINAL (KV-32V15)	
5	4-319-520-11	SCREW, SPECIAL (+PW4X30)			4-039-524-21	PANEL, ANTENNA TERMINAL (KV-27V15)	
6	Δ 1-453-416-11	TRANSFORMER ASSY. FLYBACK (NX-2604A3)			4-039-524-31	PANEL, ANTENNA TERMINAL (KV-27V10/29V10C/29V10M)	
7	*A-1346-192-A	D BOARD, COMPLETE (KV-27V10/29V10M)		20	4-382-854-11	SCREW (M3X10), P, SW (+)	
	*A-1346-199-A	D BOARD, COMPLETE (KV-29V10C)		21	4-039-834-01	LABEL, TERMINAL	
	*A-1346-200-A	D BOARD, COMPLETE (KV-27V15)		22	1-573-657-11	PLAUG, F-PIN (KV-27V10/27V15/29V10C/29V10M)	
	*A-1346-201-A	D BOARD, COMPLETE (KV-32V15)					
8	*A-1297-221-A	A BOARD, COMPLETE (KV-27V10/27V15/29V10C/29V10M)		23	Δ 1-751-056-11	CORD, POWER (WITH CONNECTOR) 6A/250V (KV-29V10C)	
	*A-1297-233-A	A BOARD, COMPLETE (KV-32V15)			Δ 1-751-059-11	CORD, POWER (WITH CONNECTOR) 10A/125V (KV-27V10/27V15/29V10M/32V15)	
9	Δ 8-598-254-00	TUNER BTW-WA402		24	4-043-579-01	COVER, REAR (KV-32V15)	
10	Δ 8-598-047-00	TUNER (KV-32V15)			4-043-661-01	COVER, REAR (KV-27V10/27V15/29V10C/29V10M)	
11	*1-751-136-11	CABLE, PIN (KV-32V15)		25	4-043-457-01	BAFFLE, SPEAKER	
12	*1-751-135-11	CABLE, PIN (KV-32V15)		26	4-374-745-11	CUSHION (A)	
13	1-417-178-11	SELECTOR, ANTENNA (AS-2) (KV-32V15)		27	1-504-524-11	SPEAKER (8CM)	
14	*A-1394-527-A	UA BOARD, COMPLETE (KV-27V15)					
	*A-1394-529-A	UA BOARD, COMPLETE (KV-32V15)		29	4-043-458-01	COVER, SPEAKER	
	*A-1394-552-A	UA BOARD, COMPLETE (KV-27V10/29V10C/29V10M)					
15	*A-1306-454-A	M BOARD, COMPLETE (KV-27V10/27V15/32V15)					
	*A-1306-462-A	M BOARD, COMPLETE (KV-29V10C/29V10M)					

7-2. PICTURE TUBE



The components identified by shading and mark **Δ** are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque **Δ** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
51	4-043-659-01	PANEL (LEFT), CONTROL		63	Δ 1-402-952-12	COIL, DEMAGNETIZATION (KV-32V15)	
52	4-043-658-01	PANEL (RIGHT), CONTROL		64	*4-371-629-01	STOPPER, WIRE (KV-32V15)	
53	4-043-433-01	DOOR, CONTROL		65	4-033-681-01	HOLDER, LEAD (KV-32V15)	
	4-043-433-21	DOOR, CONTROL (KV-32V15)		66	4-041-268-01	SCREW (7), TAPPING	
54	*4-389-517-01	GUIDE (R), LIGHT		67	4-040-388-01	HOLDER(S), DGC	
55	4-043-578-01	CABINET (WITH BEZEL) (KV-32V15)		68	Δ 1-406-726-22	COIL, DEMAGNETIZATION	
	4-043-660-01	CABINET (WITH BEZEL) (KV-27V10/27V15/29V10C/29V10M)			Δ 1-406-726-41	COIL, DEMAGNETIZATION (KV-29V10C)	
56	Δ 8-733-723-05	PICTURE TUBE (A80JYV50X) (KV-32V15)		69	4-040-387-01	HOLDER(M), DGC	
	Δ 8-733-848-05	PICTURE TUBE (A68KZJ50X) (KV-27V10/27V15/29V10C/29V10M)		70	4-308-870-00	CLIP, LEAD WIRE	
57	Δ 8-451-275-42	DEFLECTION YOKE Y28PFA(VTM) (KV-27V10/27V15/29V10C/29V10M)		71	1-452-032-00	MAGNET, DISK; 10MM ϕ	
	Δ 8-451-315-41	DEFLECTION YOKE Y34FXA(VTM) (KV-32V15)		72	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
58	4-036-329-01	SPRING (B), TENSION		73	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
59	4-041-361-01	SPACER, DEFLECTION YOKE					
60	*A-1331-351-A	C BOARD, COMPLETE (KV-32V15)					
61	*A-1331-327-A	C BOARD, COMPLETE (KV-27V10/27V15/29V10C/29V10M)					

SECTION 8 ELECTRICAL PARTS LIST

P (KV-27V15/32V15)

NOTE:

The components identified by shading and mark **▲** are critical for safety.

Replace only with part number specified.

Les composants identifiés par une trame et une marque **▲** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

• Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

• All resistors are in ohms
• F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS

• MF : μ F, PF : μ F

COILS

• MMH : mH, UH : μ H

• The components identified by **■** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
*A-1195-062-A P BOARD, COMPLETE (KV-27V15/32V15)				C3249	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
*****				C3250	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
<CAPACITOR>				C3251	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C3201	1-124-477-11	ELECT 47MF	20% 16V	C3252	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C3203	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C3253	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C3204	1-124-907-11	ELECT 10MF	20% 50V	C3254	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C3205	1-124-907-11	ELECT 10MF	20% 50V	C3255	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C3206	1-124-907-11	ELECT 10MF	20% 50V	C3256	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C3207	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C3257	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C3208	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C3258	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C3209	1-126-962-11	ELECT 3.3MF	20% 50V	C3259	1-163-111-00	CERAMIC CHIP 56PF	5% 50V
C3210	1-124-477-11	ELECT 47MF	20% 16V	C3260	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
C3212	1-126-962-11	ELECT 3.3MF	20% 50V	C3261	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C3213	1-164-346-11	CERAMIC CHIP 1MF	16V	C3263	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C3214	1-164-346-11	CERAMIC CHIP 1MF	16V	C3264	1-165-319-11	CERAMIC CHIP 0.1MF	5% 50V
C3215	1-164-346-11	CERAMIC CHIP 1MF	16V	C3265	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C3216	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C3266	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C3217	1-164-346-11	CERAMIC CHIP 1MF	16V	C3267	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C3218	1-164-346-11	CERAMIC CHIP 1MF	16V	C3268	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C3219	1-126-103-11	ELECT 470MF	20% 16V	C3269	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C3220	1-164-346-11	CERAMIC CHIP 1MF	16V	C3270	1-165-319-11	CERAMIC CHIP 0.1MF	5% 50V
C3221	1-164-346-11	CERAMIC CHIP 1MF	16V	C3271	1-165-319-11	CERAMIC CHIP 0.1MF	5% 50V
C3222	1-164-336-11	CERAMIC CHIP 0.33MF	25V	C3272	1-165-319-11	CERAMIC CHIP 0.1MF	5% 50V
C3223	1-164-336-11	CERAMIC CHIP 0.33MF	25V	C3273	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C3224	1-164-222-11	CERAMIC CHIP 0.22MF	25V	C3274	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C3225	1-164-222-11	CERAMIC CHIP 0.22MF	25V	C3275	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C3226	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C3276	1-163-111-00	CERAMIC CHIP 56PF	5% 50V
C3227	1-164-346-11	CERAMIC CHIP 1MF	16V	C3277	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C3228	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C3278	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C3229	1-163-093-00	CERAMIC CHIP 10PF	5% 50V	C3279	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C3230	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	C3280	1-124-907-11	ELECT 10MF	20% 50V
C3231	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C3282	1-164-346-11	CERAMIC CHIP 1MF	16V
C3232	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	<CONNECTOR>			
C3233	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	CN150	1-573-297-21	CONNECTOR, BOARD TO BOARD 18P	
C3234	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	<DIODE>			
C3235	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	D3202	8-719-031-68	DIODE HVU359TRF	
C3236	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	D3203	8-719-404-46	DIODE MA110	
C3237	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	D3208	8-719-110-17	DIODE RD10ESB2	
C3238	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	D3209	8-719-110-17	DIODE RD10ESB2	
C3239	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	<IC>			
C3240	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	IC3200	8-759-971-56	IC MB81461B-12RS-PSZ	
C3241	1-163-103-00	CERAMIC CHIP 27PF	5% 50V	IC3201	8-759-093-29	IC MB86144BPF-G-BND	
C3242	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	IC3202	8-759-093-28	IC MB40176PF-G-BND-EF	
C3243	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	IC3203	8-759-093-28	IC MB40176PF-G-BND-EF	
C3244	1-163-113-00	CERAMIC CHIP 68PF	5% 50V	IC3204	8-759-093-26	IC MB3512PFQ-G-BND-EF	
C3245	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V				
C3246	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V				
C3247	1-163-033-00	CERAMIC CHIP 0.022MF	50V				
C3248	1-163-125-00	CERAMIC CHIP 220PF	5% 50V				

P (KV-27V15/32V15)

A

REF.NO.	PART NO.	DESCRIPTION					REMARK	REF.NO.	PART NO.	DESCRIPTION					REMARK
IC3205	8-759-243-19	IC TC7SU04F						R3238	1-216-049-00	METAL GLAZE	1K	5%	1/10W		
								R3239	1-216-043-00	METAL GLAZE	560	5%	1/10W		
								R3241	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W		
								R3242	1-216-049-00	METAL GLAZE	1K	5%	1/10W		
		<COIL>													
L3201	1-410-470-11	INDUCTOR	10UH				R3243	1-216-025-00	METAL GLAZE	100	5%	1/10W			
L3202	1-408-424-00	INDUCTOR	180UH				R3244	1-216-025-00	METAL GLAZE	100	5%	1/10W			
L3203	1-408-424-00	INDUCTOR	180UH				R3245	1-216-025-00	METAL GLAZE	100	5%	1/10W			
L3204	1-410-476-11	INDUCTOR	33UH				R3246	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W			
L3205	1-410-470-11	INDUCTOR	10UH				R3247	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W			
L3206	1-410-387-11	INDUCTOR	33UH				R3248	1-216-295-00	METAL GLAZE	0	5%	1/10W			
L3207	1-410-387-11	INDUCTOR	33UH				R3249	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W			
L3208	1-410-387-11	INDUCTOR	33UH				R3250	1-216-043-00	METAL GLAZE	560	5%	1/10W			
L3209	1-410-387-11	INDUCTOR	33UH				R3251	1-216-049-00	METAL GLAZE	1K	5%	1/10W			
								R3252	1-216-043-00	METAL GLAZE	560	5%	1/10W		
		<TRANSISTOR>													
								R3253	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W		
Q3201	8-729-216-22	TRANSISTOR	2SA1162-G				R3254	1-216-043-00	METAL GLAZE	560	5%	1/10W			
Q3202	8-729-422-27	TRANSISTOR	2SD601A-Q				R3255	1-216-041-00	METAL GLAZE	470	5%	1/10W			
Q3203	8-729-216-22	TRANSISTOR	2SA1162-G				R3256	1-216-043-00	METAL GLAZE	560	5%	1/10W			
Q3204	8-729-216-22	TRANSISTOR	2SA1162-G				R3259	1-216-298-00	METAL GLAZE	2.2	5%	1/10W			
Q3206	8-729-422-27	TRANSISTOR	2SD601A-Q												
								R3260	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
Q3207	8-729-216-22	TRANSISTOR	2SA1162-G				R3263	1-216-025-00	METAL GLAZE	100	5%	1/10W			
Q3208	8-729-422-27	TRANSISTOR	2SD601A-Q				R3264	1-216-025-00	METAL GLAZE	100	5%	1/10W			
Q3209	8-729-216-22	TRANSISTOR	2SA1162-G				R3265	1-216-049-00	METAL GLAZE	1K	5%	1/10W			
Q3210	8-729-216-22	TRANSISTOR	2SA1162-G				R3266	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W			
		<RESISTOR>													
								R3267	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W		
R3201	1-216-097-00	METAL GLAZE	100K	5%	1/10W		R3268	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W			
R3202	1-216-073-00	METAL GLAZE	10K	5%	1/10W		R3269	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W			
R3203	1-216-025-00	METAL GLAZE	100	5%	1/10W		R3270	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W			
R3204	1-216-025-00	METAL GLAZE	100	5%	1/10W		R3271	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W			
R3205	1-216-121-00	METAL GLAZE	1M	5%	1/10W										
								R3273	1-216-073-00	METAL GLAZE	10K	5%	1/10W		
R3207	1-216-295-00	METAL GLAZE	0	5%	1/10W		R3274	1-216-049-00	METAL GLAZE	1K	5%	1/10W			
R3208	1-216-097-00	METAL GLAZE	100K	5%	1/10W		R3275	1-216-049-00	METAL GLAZE	1K	5%	1/10W			
R3209	1-216-079-00	METAL GLAZE	18K	5%	1/10W		R3276	1-216-049-00	METAL GLAZE	1K	5%	1/10W			
R3210	1-216-089-91	METAL GLAZE	47K	5%	1/10W		R3277	1-216-298-00	METAL GLAZE	2.2	5%	1/10W			
R3211	1-216-073-00	METAL GLAZE	10K	5%	1/10W										
								<CRYSTAL>							
R3212	1-216-073-00	METAL GLAZE	10K	5%	1/10W		X3201	1-567-878-11	VIBRATOR, CRYSTAL						
R3213	1-216-075-00	METAL GLAZE	12K	5%	1/10W		X3202	1-567-878-11	VIBRATOR, CRYSTAL						
R3214	1-216-121-00	METAL GLAZE	1M	5%	1/10W		*****								
R3215	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W										
R3216	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W										
R3217	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W										
R3218	1-216-049-00	METAL GLAZE	1K	5%	1/10W										
R3219	1-216-049-00	METAL GLAZE	1K	5%	1/10W										
R3220	1-216-049-00	METAL GLAZE	1K	5%	1/10W										
R3221	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W										
R3222	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W										
R3223	1-216-025-00	METAL GLAZE	100	5%	1/10W										
R3224	1-216-049-00	METAL GLAZE	1K	5%	1/10W		C173	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V			
R3225	1-216-025-00	METAL GLAZE	100	5%	1/10W		C174	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V			
R3226	1-216-085-00	METAL GLAZE	33K	5%	1/10W		C175	1-126-935-11	ELECT	470MF	20%	16V			
								C176	1-126-935-11	ELECT	470MF	20%	16V		
R3227	1-216-647-11	METAL CHIP	680	0.50%	1/10W		C177	1-126-964-11	ELECT	10MF	20%	50V			
R3228	1-216-045-00	METAL GLAZE	680	5%	1/10W										
R3229	1-216-073-00	METAL GLAZE	10K	5%	1/10W		C178	1-126-933-11	ELECT	100MF	20%	16V			
R3230	1-216-073-00	METAL GLAZE	10K	5%	1/10W		C179	1-124-916-11	ELECT	22MF	20%	25V			
R3231	1-216-001-00	METAL GLAZE	10	5%	1/10W		C180	1-124-916-11	ELECT	22MF	20%	25V			
R3232	1-216-083-00	METAL GLAZE	27K	5%	1/10W		C181	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V			
R3233	1-216-049-00	METAL GLAZE	1K	5%	1/10W										
R3234	1-216-651-11	METAL CHIP	1K	0.50%	1/10W		C182	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V			
R3235	1-216-043-00	METAL GLAZE	560	5%	1/10W										
R3236	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W		C184	1-126-964-11	ELECT	10MF	20%	50V			
R3237	1-216-043-00	METAL GLAZE	560	5%	1/10W		C185	1-126-964-11	ELECT	10MF	20%	50V			

A M

Les composants identifiés par
 une trame et une marque Δ
 sont critiques pour la securite.
 Ne les remplacer que par une
 piece portant le numero specifie.

The components identified by
 shading and mark Δ are critical
 for safety.
 Replace only with part number
 specified.

REF.NO. PART NO.

DESCRIPTION

REMARK

REF.NO. PART NO.

DESCRIPTION

REMARK

<CONNECTOR>

CN103 *1-564-519-11 PLUG, CONNECTOR 4P
 CN151 1-573-979-21 CONNECTOR, BOARD TO BOARD 11P
 CN152 1-750-394-11 PIN, CONNECTOR (STAKING) 32P
 CN164 1-564-505-11 PLUG, CONNECTOR 2P
 CN165 1-564-505-11 PLUG, CONNECTOR 2P
 CN208 1-564-510-11 PLUG, CONNECTOR 7P
 (KV-27V10/27V15/29V10C/29V10M)

<DIODE>

D170 8-719-110-76 DIODE RD33ESB1
 D175 8-719-110-76 DIODE RD33ESB1 (KV-32V15)

<IC>

IC172 8-759-932-67 IC BU4053BF

<COIL>

L170 1-408-408-00 INDUCTOR 8.2UH
 L171 1-408-408-00 INDUCTOR 8.2UH
 L172 1-408-408-00 INDUCTOR 8.2UH
 L173 1-408-408-00 INDUCTOR 8.2UH (KV-32V15)

<TRANSISTOR>

Q172 8-729-216-22 TRANSISTOR 2SA1162-G (KV-32V15)
 Q173 8-729-216-22 TRANSISTOR 2SA1162-G (KV-32V15)

<RESISTOR>

R170 1-216-025-00 METAL GLAZE 100 5% 1/10W
 (KV-27V10/27V15/29V10C/29V10M)
 R173 1-216-295-00 METAL GLAZE 0 5% 1/10W
 (KV-32V15)
 R174 1-216-689-11 METAL GLAZE 39K 5% 1/10W
 R175 1-215-900-11 METAL OXIDE 22K 5% 2W F
 (KV-32V15)
 R176 1-216-295-00 METAL GLAZE 0 5% 1/10W
 (KV-27V10/27V15/29V10C/29V10M)
 R177 1-215-900-11 METAL OXIDE 22K 5% 2W F
 R179 1-216-065-00 METAL GLAZE 4.7K 5% 1/10W
 R181 1-216-025-00 METAL GLAZE 100 5% 1/10W
 (KV-32V15)
 R185 1-216-025-00 METAL GLAZE 100 5% 1/10W
 (KV-32V15)
 R187 1-216-083-00 METAL GLAZE 27K 5% 1/10W
 R188 1-216-689-11 METAL GLAZE 39K 5% 1/10W
 (KV-32V15)
 R189 1-216-083-00 METAL GLAZE 27K 5% 1/10W
 (KV-32V15)
 R190 1-216-065-00 METAL GLAZE 4.7K 5% 1/10W
 (KV-32V15)
 R191 1-216-065-00 METAL GLAZE 4.7K 5% 1/10W
 (KV-32V15)
 R193 1-216-037-00 METAL GLAZE 330 5% 1/10W
 (KV-32V15)
 R196 1-216-037-00 METAL GLAZE 330 5% 1/10W
 (KV-32V15)

<TUNER>

TU101A 8-598-254-00 TUNER BTF-WA402
 TU102A 8-598-047-00 TUNER (KV-32V15)

*A-1306-454-A M BOARD, COMPLETE (KV-27V10/27V15/32V15)

 *A-1306-462-A M BOARD, COMPLETE (KV-29V10C/29V10M)

<CAPACITOR>

C002 1-163-809-11 CERAMIC CHIP 0.047MF 10% 25V
 C003 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C005 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C006 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C007 1-124-903-11 ELECT 1MF 20% 50V
 C008 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C009 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C010 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C012 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C013 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C014 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C015 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C016 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C017 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C018 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C019 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C021 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C022 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C023 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C025 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C028 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C029 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C032 1-124-902-00 ELECT 0.47MF 20% 50V
 C033 1-126-933-11 ELECT 100MF 20% 10V
 C034 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 (KV-27V10/27V15/32V15)
 C035 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 (KV-27V10/27V15/32V15)
 C041 1-163-009-11 CERAMIC CHIP 0.001MF 10% 50V
 C043 1-163-159-00 CERAMIC CHIP 12PF 2% 50V
 C045 1-126-940-11 ELECT 330MF 20% 16V
 C047 1-104-896-11 CERAMIC CHIP 24PF 2% 50V
 C048 1-126-964-11 ELECT 10MF 20% 50V
 C049 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C050 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C051 1-163-031-11 CERAMIC CHIP 0.01MF 50V
 C052 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C053 1-163-121-00 CERAMIC CHIP 150PF 5% 50V
 C054 1-163-125-00 CERAMIC CHIP 220PF 5% 50V
 C055 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C056 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C057 1-163-017-00 CERAMIC CHIP 0.0047MF 10% 50V
 C058 1-163-037-11 CERAMIC CHIP 0.022MF 10% 25V
 C059 1-163-001-11 CERAMIC CHIP 220PF 10% 50V
 C060 1-124-903-11 ELECT 1MF 20% 50V
 C062 1-126-964-11 ELECT 10MF 20% 50V
 C150 1-136-165-00 FILM 0.1MF 5% 50V
 (KV-27V10/27V15/32V15)

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C151	1-136-175-00	FILM 0.068MF 5% 50V (KV-27V10/27V15/32V15)					
C152	1-126-964-11	ELECT 10MF 20% 50V (KV-27V10/27V15/32V15)				<CONNECTOR>	
C153	1-137-367-11	FILM 0.0033MF 5% 50V (KV-27V10/27V15/32V15)		CN129	*1-564-521-11	PLUG, CONNECTOR 6P	
C154	1-163-038-00	CERAMIC CHIP 0.1MF 25V (KV-27V10/27V15/32V15)		CN130	1-573-301-21	CONNECTOR, BOARD TO BOARD 20P	
C155	1-126-964-11	ELECT 10MF 20% 50V (KV-27V10/27V15/32V15)		CN131	*1-691-914-11	CONNECTOR, BOARD TO BOARD 15P	
C156	1-163-135-00	CERAMIC CHIP 560PF 5% 50V (KV-27V10/27V15/32V15)		CN134	*1-564-521-11	PLUG, CONNECTOR 6P (KV-27V10/27V15/32V15)	
C157	1-163-038-00	CERAMIC CHIP 0.1MF 25V (KV-27V10/27V15/32V15)		CN137	1-750-394-11	PIN, CONNECTOR (STAKING) 32P	
C158	1-124-903-11	ELECT 1MF 20% 50V (KV-27V10/27V15/32V15)		CN138	*1-564-512-11	PLUG, CONNECTOR 9P	
C201	1-124-903-11	ELECT 1MF 20% 50V		CN163	*1-564-508-11	PLUG, CONNECTOR 5P (KV-27V10/27V15/32V15)	
C202	1-163-017-00	CERAMIC CHIP 0.0047MF 10% 50V		CN168	1-564-505-11	PLUG, CONNECTOR 2P	
C203	1-163-001-11	CERAMIC CHIP 220PF 10% 50V				<DIODE>	
C204	1-163-989-11	CERAMIC CHIP 0.033MF 10% 25V		D001	8-719-404-46	DIODE MA110	
C205	1-126-933-11	ELECT 100MF 20% 16V		D002	8-719-404-46	DIODE MA110	
C211	1-163-001-11	CERAMIC CHIP 220PF 10% 50V		D004	8-719-404-46	DIODE MA110 (KV-27V10/27V15/32V15)	
C212	1-124-902-00	ELECT 0.47MF 20% 50V		D005	8-713-300-57	DIODE 1T33	
C213	1-124-902-00	ELECT 0.47MF 20% 50V		D006	8-719-110-17	DIODE RD10ESB2	
C214	1-163-017-00	CERAMIC CHIP 0.0047MF 10% 50V		D007	8-719-110-17	DIODE RD10ESB2	
C216	1-104-665-11	ELECT 100MF 20% 25V		D008	8-719-110-17	DIODE RD10ESB2	
C301	1-163-117-00	CERAMIC CHIP 100PF 5% 50V		D009	8-719-110-17	DIODE RD10ESB2	
C305	1-126-964-11	ELECT 10MF 20% 50V		D150	8-719-404-46	DIODE MA110 (KV-27V10/27V15/32V15)	
C306	1-124-902-00	ELECT 0.47MF 20% 50V		D201	8-719-404-46	DIODE MA110	
C307	1-163-125-00	CERAMIC CHIP 220PF 5% 50V		D202	8-719-404-46	DIODE MA110	
C308	1-163-099-00	CERAMIC CHIP 18PF 5% 50V		D205	8-719-110-17	DIODE RD10ESB2	
C310	1-124-916-11	ELECT 22MF 20% 25V		D206	8-719-110-17	DIODE RD10ESB2	
C311	1-124-903-11	ELECT 1MF 20% 50V		D207	8-719-510-48	DIODE DIN20R (KV-27V10/27V15/32V15)	
C313	1-163-003-11	CERAMIC CHIP 330PF 10% 50V		D301	8-719-110-17	DIODE RD10ESB2	
C315	1-126-964-11	ELECT 10MF 20% 50V (KV-27V10/27V15/32V15)		D304	8-719-110-17	DIODE RD10ESB2	
C316	1-126-964-11	ELECT 10MF 20% 50V (KV-27V10/27V15/32V15)				<IC>	
C317	1-126-964-11	ELECT 10MF 20% 50V (KV-27V10/27V15/32V15)		IC101	8-752-851-01	IC CXP80424-079S	
C318	1-136-165-00	FILM 0.1MF 5% 50V		IC102	8-759-168-37	IC ST24C01B1	
C319	1-136-165-00	FILM 0.1MF 5% 50V		IC103	8-759-805-37	IC L78LR05D-MA	
C320	1-136-165-00	FILM 0.1MF 5% 50V		IC150	8-759-084-28	IC MC144143P1 (KV-27V10/27V15/32V15)	
C321	1-126-952-11	ELECT 1000MF 20% 16V		IC201	8-759-090-21	IC TDA8424	
C322	1-136-153-00	FILM 0.01MF 5% 50V		IC202	8-759-983-69	IC LM358PS	
C323	1-126-923-11	ELECT 220MF 20% 10V		IC301	8-752-059-67	IC CXA1465AS	
C324	1-163-003-11	CERAMIC CHIP 330PF 10% 50V				<COIL>	
C325	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V		L001	1-410-470-11	INDUCTOR 10UH	
C326	1-136-169-00	FILM 0.22MF 5% 50V		L002	1-408-414-00	INDUCTOR 27UH	
C327	1-136-169-00	FILM 0.22MF 5% 50V		L150	1-410-470-11	INDUCTOR 10UH (KV-27V10/27V15/32V15)	
C328	1-124-902-00	ELECT 0.47MF 20% 50V				<TRANSISTOR>	
C329	1-124-903-11	ELECT 1MF 20% 50V		Q001	8-729-216-22	TRANSISTOR 2SA1162-G	
C330	1-126-964-11	ELECT 10MF 20% 50V		Q004	8-729-216-22	TRANSISTOR 2SA1162-G	
C332	1-164-489-11	CERAMIC CHIP 0.22MF 10% 16V		Q005	8-729-422-27	TRANSISTOR 2SD601A-Q	
C333	1-163-011-11	CERAMIC CHIP 0.0015MF 10% 50V		Q151	8-729-422-27	TRANSISTOR 2SD601A-Q (KV-27V10/27V15/32V15)	
C334	1-124-902-00	ELECT 0.47MF 20% 50V		Q201	8-729-422-27	TRANSISTOR 2SD601A-Q	
C335	1-163-001-11	CERAMIC CHIP 220PF 10% 50V		Q301	8-729-216-22	TRANSISTOR 2SA1162-G	
C336	1-124-903-11	ELECT 1MF 20% 50V		Q302	8-729-216-22	TRANSISTOR 2SA1162-G	
C337	1-124-902-00	ELECT 0.47MF 20% 50V		Q308	8-729-422-27	TRANSISTOR 2SD601A-Q	
C338	1-136-153-00	FILM 0.01MF 5% 50V					
C340	1-124-903-11	ELECT 1MF 20% 50V					
C341	1-163-005-11	CERAMIC CHIP 470PF 10% 50V					
C342	1-137-414-11	FILM 0.0047MF 10% 100V					

M

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<RESISTOR>				R063	1-216-033-00	METAL GLAZE 220 5% 1/10W (KV-27V10/27V15/32V15)	
JR200	1-216-295-00	METAL GLAZE 0 5% 1/10W		R064	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
JR201	1-216-295-00	METAL GLAZE 0 5% 1/10W		R065	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
JR202	1-216-295-00	METAL GLAZE 0 5% 1/10W		R066	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R002	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R067	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R003	1-216-033-00	METAL GLAZE 220 5% 1/10W		R069	1-216-033-00	METAL GLAZE 220 5% 1/10W (KV-27V10/27V15/32V15)	
R004	1-216-033-00	METAL GLAZE 220 5% 1/10W		R070	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-27V10/27V15/32V15)	
R005	1-216-033-00	METAL GLAZE 220 5% 1/10W		R071	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R006	1-216-049-00	METAL GLAZE 1K 5% 1/10W		R074	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R007	1-216-033-00	METAL GLAZE 220 5% 1/10W		R075	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R008	1-216-033-00	METAL GLAZE 220 5% 1/10W		R076	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R009	1-216-033-00	METAL GLAZE 220 5% 1/10W		R078	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R011	1-216-033-00	METAL GLAZE 220 5% 1/10W		R079	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R012	1-216-033-00	METAL GLAZE 220 5% 1/10W		R080	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R013	1-216-033-00	METAL GLAZE 220 5% 1/10W		R082	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R016	1-216-033-00	METAL GLAZE 220 5% 1/10W		R083	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R017	1-216-033-00	METAL GLAZE 220 5% 1/10W		R086	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R018	1-216-033-00	METAL GLAZE 220 5% 1/10W		R087	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R019	1-216-033-00	METAL GLAZE 220 5% 1/10W		R091	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R020	1-216-033-00	METAL GLAZE 220 5% 1/10W		R092	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R021	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R093	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R022	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R150	1-216-097-00	METAL GLAZE 100K 5% 1/10W (KV-27V10/27V15/32V15)	
R023	1-216-033-00	METAL GLAZE 220 5% 1/10W		R151	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-27V10/27V15/32V15)	
R025	1-216-033-00	METAL GLAZE 220 5% 1/10W		R152	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-27V10/27V15/32V15)	
R026	1-216-097-00	METAL GLAZE 100K 5% 1/10W		R153	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W (KV-27V10/27V15/32V15)	
R027	1-216-121-00	METAL GLAZE 1M 5% 1/10W		R154	1-216-041-00	METAL GLAZE 470 5% 1/10W (KV-27V10/27V15/32V15)	
R028	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R155	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-27V10/27V15/32V15)	
R029	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W		R156	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R030	1-216-073-00	METAL GLAZE 10K 5% 1/10W		R157	1-216-073-00	METAL GLAZE 10K 5% 1/10W (KV-27V10/27V15/32V15)	
R031	1-216-033-00	METAL GLAZE 220 5% 1/10W		R158	1-216-073-00	METAL GLAZE 10K 5% 1/10W (KV-27V10/27V15/32V15)	
R032	1-216-033-00	METAL GLAZE 220 5% 1/10W		R159	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-27V10/27V15/32V15)	
R033	1-216-033-00	METAL GLAZE 220 5% 1/10W		R160	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-27V10/27V15/32V15)	
R034	1-216-033-00	METAL GLAZE 220 5% 1/10W		R161	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-27V10/27V15/32V15)	
R035	1-216-033-00	METAL GLAZE 220 5% 1/10W		R162	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W (KV-27V10/27V15/32V15)	
R036	1-216-033-00	METAL GLAZE 220 5% 1/10W		R163	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W (KV-27V10/27V15/32V15)	
R037	1-216-033-00	METAL GLAZE 220 5% 1/10W		R164	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W (KV-27V10/27V15/32V15)	
R038	1-216-033-00	METAL GLAZE 220 5% 1/10W		R165	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W (KV-27V10/27V15/32V15)	
R039	1-216-295-00	METAL GLAZE 0 5% 1/10W		R166	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-27V10/27V15/32V15)	
R040	1-216-049-00	METAL GLAZE 1K 5% 1/10W		R168	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-27V10/27V15/32V15)	
R041	1-216-033-00	METAL GLAZE 220 5% 1/10W		R201	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R042	1-216-049-00	METAL GLAZE 1K 5% 1/10W		R202	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R043	1-216-049-00	METAL GLAZE 1K 5% 1/10W		R203	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R044	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W		R204	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R045	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W		R205	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R046	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W					
R048	1-216-073-00	METAL GLAZE 10K 5% 1/10W					
R049	1-216-049-00	METAL GLAZE 1K 5% 1/10W					
R050	1-216-049-00	METAL GLAZE 1K 5% 1/10W					
R051	1-216-073-00	METAL GLAZE 10K 5% 1/10W					
R052	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W					
R053	1-216-049-00	METAL GLAZE 1K 5% 1/10W					
R054	1-216-049-00	METAL GLAZE 1K 5% 1/10W					
R055	1-216-033-00	METAL GLAZE 220 5% 1/10W (KV-27V10/27V15/32V15)					
R056	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W					
R057	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W					
R058	1-216-073-00	METAL GLAZE 10K 5% 1/10W					
R059	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W					
R060	1-216-079-00	METAL GLAZE 18K 5% 1/10W (KV-27V10/27V15/32V15)					
	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-29V10C/29V10M)					
R062	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W					

The components identified by shading and mark Δ are critical for safety.
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Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y117 RM-Y121
RM-CM101

M C

REF. NO.	PART NO.	DESCRIPTION	REMARK
R206	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R207	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R208	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R209	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R210	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R211	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R212	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R213	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R218	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R219	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R220	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R222	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R223	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R301	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R302	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R303	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R304	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R305	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R306	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R312	1-216-119-00	METAL GLAZE 820K 5% 1/10W	
R313	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R321	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R323	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R324	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R327	1-216-653-11	METAL CHIP 1.2K 0.50% 1/10W	
R328	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R329	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R330	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R331	1-216-678-11	METAL CHIP 13K 0.50% 1/10W	
R332	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R333	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R334	1-216-687-11	METAL CHIP 33K 0.50% 1/10W	
R335	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R336	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R337	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R338	1-249-417-11	CARBON 1K 5% 1/4W F	
R339	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R340	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R341	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R342	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R343	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R344	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R345	1-216-109-00	METAL GLAZE 330K 5% 1/10W	
R346	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R347	1-249-409-11	CARBON 220 5% 1/4W F	
R348	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R349	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R351	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R352	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R354	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R356	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R374	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R375	1-216-033-00	METAL GLAZE 220 5% 1/10W	
<CRYSTAL>			
X001	1-579-917-21	VIBRATOR, CRYSTAL	
X301	1-567-505-11	OSCILLATOR, CRYSTAL	

REF. NO.	PART NO.	DESCRIPTION	REMARK
*A-1331-327-A	C BOARD, COMPLETE	*****	
	(KV-27V10/27V15/29V10C/29V10M)		
*A-1331-351-A	C BOARD, COMPLETE (KV-32V15)	*****	
<CAPACITOR>			
C700	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C701	1-162-114-00	CERAMIC 0.0047MF 2KV	
C702	1-106-375-12	MYLAR 0.022MF 200V	
C703	1-106-375-12	MYLAR 0.022MF 200V	
C704	1-162-116-00	CERAMIC 680PF 10% 2KV	
C705	1-123-946-00	ELECT 4.7MF 20% 250V	
C706	1-124-916-11	ELECT 22MF 20% 25V	
	(KV-27V10/27V15/29V10C/29V10M)		
	1-126-933-11	ELECT 100MF 20% 16V	(KV-32V15)
C707	1-102-129-00	CERAMIC 0.01MF 10% 50V	(KV-32V15)
C711	1-164-083-11	CERAMIC 680PF 10% 50V	(KV-32V15)
C712	1-164-081-11	CERAMIC 470PF 10% 50V	
C731	1-164-083-11	CERAMIC 680PF 10% 50V	(KV-32V15)
C732	1-164-081-11	CERAMIC 470PF 10% 50V	
C751	1-164-083-11	CERAMIC 680PF 10% 50V	(KV-32V15)
C752	1-164-081-11	CERAMIC 470PF 10% 50V	(KV-27V10/27V15/29V10C/29V10M)
	1-164-083-11	CERAMIC 680PF 10% 50V	(KV-32V15)
<CONNECTOR>			
CN701	1-695-915-11	TAB (CONTACT)	
CN702	1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	
CN703	*1-564-509-11	PLUG, CONNECTOR 6P	
<DIODE>			
D711	8-719-911-19	DIODE 1SS119 (KV-32V15)	
D712	8-719-911-19	DIODE 1SS119 (KV-32V15)	
D731	8-719-911-19	DIODE 1SS119 (KV-32V15)	
D732	8-719-911-19	DIODE 1SS119 (KV-32V15)	
D751	8-719-911-19	DIODE 1SS119 (KV-32V15)	
D752	8-719-911-19	DIODE 1SS119 (KV-32V15)	
D770	8-719-911-19	DIODE 1SS119	
D771	8-719-911-19	DIODE 1SS119	
D772	8-719-911-19	DIODE 1SS119	
D773	8-719-911-19	DIODE 1SS119	
D777	8-719-109-72	DIODE RD3.9ESB2	
D790	8-719-911-19	DIODE 1SS119	
D791	8-719-911-19	DIODE 1SS119	
D792	8-719-911-19	DIODE 1SS119	
<JACK>			
J701	Δ 1-540-124-11	SOCKET, PICTURE TUBE	
<COIL>			
L701	1-410-478-11	INDUCTOR 47UH	

C E (KV-32V15)

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<TRANSISTOR>				R774	1-249-437-11	CARBON	47K 5% 1/4W
Q711	8-729-326-11	TRANSISTOR 2SC2611		R775	1-249-417-11	CARBON	1K 5% 1/4W F
Q712	8-729-119-78	TRANSISTOR 2SC2785-HFE (KV-32V15)		R776	1-249-409-11	CARBON	220 5% 1/4W F
Q731	8-729-326-11	TRANSISTOR 2SC2611		R790	1-249-413-11	CARBON	470 5% 1/4W
Q732	8-729-119-78	TRANSISTOR 2SC2785-HFE (KV-32V15)		R791	1-249-412-11	CARBON	390 5% 1/4W
Q751	8-729-326-11	TRANSISTOR 2SC2611		<VARIABLE RESISTOR>			
Q752	8-729-119-78	TRANSISTOR 2SC2785-HFE (KV-32V15)		RV702	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
Q770	8-729-119-76	TRANSISTOR 2SA1175-HFE		*****			
Q771	8-729-200-17	TRANSISTOR 2SA1091-0		*A-1341-622-A	E BOARD, COMPLETE (KV-32V15)		
Q772	8-729-200-17	TRANSISTOR 2SA1091-0		*****			
Q773	8-729-200-17	TRANSISTOR 2SA1091-0		<RESISTOR>			
R700	1-247-739-11	CARBON	100 5% 1/2W	4-382-854-11	SCREW (M3X10), P. SW (+)		
R701	1-244-941-00	CARBON	680K 5% 1/2W	<CAPACITOR>			
R702	1-249-496-11	CARBON	100K 5% 1/2W	C1501	1-126-103-11	ELECT	470MF 20% 16V
R703	1-249-496-11	CARBON	100K 5% 1/2W	C1502	1-137-372-11	FILM	0.022MF 5% 50V
R704	1-216-398-11	METAL OXIDE	5.6 5% 3W F	C1503	1-102-234-00	CERAMIC	270PF 10% 500V
R705	1-216-398-11	METAL OXIDE	5.6 5% 3W F	C1504	1-136-165-00	FILM	0.1MF 5% 50V
R707	1-249-496-11	CARBON	100K 5% 1/2W (KV-32V15)	C1505	1-124-907-11	ELECT	10MF 20% 50V
R710	1-247-758-11	CARBON	3.3K 5% 1/2W	C1507	1-124-907-11	ELECT	10MF 20% 50V
R711	1-247-807-31	CARBON	100 5% 1/4W	C1509	1-136-165-00	FILM	0.1MF 5% 50V
R712	1-215-924-71	METAL OXIDE	15K 5% 3W F	C1510	1-137-370-11	FILM	0.01MF 5% 50V
R714	1-249-425-11	CARBON	4.7K 5% 1/4W	C1516	1-136-165-00	FILM	0.1MF 5% 50V
R716	1-249-411-11	CARBON	330 5% 1/4W (KV-27V10/27V15/29V10C/29V10M)	C1519	1-136-104-00	FILM	0.16MF 5% 200V
	1-249-417-11	CARBON	1K 5% 1/4W (KV-32V15)	C1522	1-124-360-00	ELECT	1000MF 20% 16V
R717	1-249-393-11	CARBON	10 5% 1/4W	C1523	1-136-177-00	FILM	1MF 5% 50V
R718	1-249-413-11	CARBON	470 5% 1/4W (KV-32V15)	C1524	1-124-927-11	ELECT	4.7MF 20% 50V
R730	1-247-758-11	CARBON	3.3K 5% 1/2W	C1529	1-124-907-11	ELECT	10MF 20% 50V
R731	1-247-807-31	CARBON	100 5% 1/4W	C1530	1-124-907-11	ELECT	10MF 20% 50V
R732	1-215-924-71	METAL OXIDE	15K 5% 3W F	C1532	1-124-927-11	ELECT	4.7MF 20% 50V
R734	1-249-425-11	CARBON	4.7K 5% 1/4W	C1533	1-126-233-11	ELECT	22MF 20% 25V
R736	1-249-411-11	CARBON	330 5% 1/4W	C1542	1-124-477-11	ELECT	47MF 20% 16V
R737	1-249-393-11	CARBON	10 5% 1/4W	C1550	1-136-756-11	FILM	0.24MF 5% 200V
R750	1-247-758-31	CARBON	3.3K 5% 1/2W	<CONNECTOR>			
R751	1-247-807-31	CARBON	100 5% 1/4W	CN122	1-573-299-21	CONNECTOR, BOARD TO BOARD 10P	
R752	1-215-924-71	METAL OXIDE	15K 5% 3W F	CN123	1-573-299-21	CONNECTOR, BOARD TO BOARD 10P	
R754	1-249-425-11	CARBON	4.7K 5% 1/4W	DY-2	1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
R755	1-247-758-11	CARBON	3.3K 5% 1/2W (KV-27V10/27V15/29V10C/29V10M)	<DIODE>			
R756	1-249-411-11	CARBON	330 5% 1/4W (KV-32V15)	D1501	8-719-911-19	DIODE 1SS119	
	1-249-413-11	CARBON	470 5% 1/4W (KV-27V10/27V15/29V10C/29V10M)	D1502	8-719-801-35	THYRISTOR SHOR3D42	
R757	1-249-393-11	CARBON	10 5% 1/4W	D1503	8-719-980-78	DIODE ERA83-006	
R758	1-249-417-11	CARBON	1K 5% 1/4W F	D1504	8-719-302-43	DIODE EL1Z	
R770	1-249-433-11	CARBON	22K 5% 1/4W (KV-27V10/27V15/29V10C/29V10M)	D1505	8-719-911-19	DIODE 1SS119	
R771	1-249-409-11	CARBON	220 5% 1/4W F	D1506	8-719-911-19	DIODE 1SS119	
R772	1-249-409-11	CARBON	220 5% 1/4W F	D1507	8-719-911-19	DIODE 1SS119	
R773	1-249-409-11	CARBON	220 5% 1/4W F	D1508	8-719-110-17	DIODE RD10ESB2	
				D1509	8-719-110-17	DIODE RD10ESB2	
				D1510	8-719-911-19	DIODE 1SS119	
				D1513	8-719-302-43	DIODE EL1Z	
				D1515	8-719-911-19	DIODE 1SS119	
				D1516	8-719-987-87	DIODE ERA85-009	
				D1517	8-719-911-19	DIODE 1SS119	

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KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y117 RM-Y121 RM-CM101

E (KV-32V15)

D

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<IC>				R1578	1-249-423-11	CARBON 3.3K 5% 1/4W	
IC1501	8-752-052-88	IC CXA1526P		R1582	1-249-411-11	CARBON 330 5% 1/4W	
IC1502	8-759-701-59	IC NJM78M09FA		R1583	1-249-421-11	CARBON 2.2K 5% 1/4W	
IC1504	8-759-135-80	IC UPC358C		R1585	1-249-441-11	CARBON 100K 5% 1/4W	
<COIL>				R1586	1-247-891-00	CARBON 330K 5% 1/4W	
L1502	1-459-592-11	COIL (WITH CORE) (PMC)		*****			
L1504	1-459-474-11	COIL (WITH CORE)		*A-1346-192-A	D BOARD, COMPLETE (KV-27V10/29V10M)		
<TRANSISTOR>					*****		
Q1501	8-729-119-78	TRANSISTOR 2SC2785-HFE		*A-1346-199-A	D BOARD, COMPLETE (KV-29V10C)		
Q1502	8-729-140-96	TRANSISTOR 2SD774-34			*****		
Q1503	8-729-119-76	TRANSISTOR 2SA1175-HFE		*A-1346-200-A	D BOARD, COMPLETE (KV-27V15)		
Q1506	8-729-119-78	TRANSISTOR 2SC2785-HFE			*****		
Q1507	8-729-119-78	TRANSISTOR 2SC2785-HFE		*A-1346-201-A	D BOARD, COMPLETE (KV-32V15)		

Q1508	8-729-140-93	TRANSISTOR 2SB733-34		4-382-854-11	SCREW (M3X10), P, SW (+)		
Q1509	8-729-140-93	TRANSISTOR 2SB733-34		<CAPACITOR>			
Q1511	8-729-119-76	TRANSISTOR 2SA1175-HFE		C501	1-124-557-11	ELECT 1000MF 20% 25V	
Q1514	8-729-209-15	TRANSISTOR 2SD2012		C502	1-162-131-11	CERAMIC 220PF 10% 2KV	
Q1519	8-729-119-78	TRANSISTOR 2SC2785-HFE		C503	1-124-557-11	ELECT 1000MF 20% 25V	
Q1520	8-729-119-78	TRANSISTOR 2SC2785-HFE		C504	1-137-366-11	FILM 0.0022MF 5% 50V	
				C505	1-124-916-11	ELECT 22MF 20% 25V	
<RESISTOR>				C506	1-128-560-11	ELECT 22MF 20% 100V	
R1501	1-249-409-11	CARBON 220 5% 1/4W		C507	1-123-947-00	ELECT 10MF 20% 160V	
R1502	1-249-409-11	CARBON 220 5% 1/4W		C508	1-129-898-00	FILM 0.0022MF 5% 630V	
R1503	1-249-435-11	CARBON 33K 5% 1/4W			(KV-27V10/27V15/29V10C/29V10M)		
R1504	1-249-429-11	CARBON 10K 5% 1/4W		C509	1-124-916-11	ELECT 22MF 20% 25V	
R1505	1-249-421-11	CARBON 2.2K 5% 1/4W		C511	1-123-024-21	ELECT 33MF 10% 160V	
R1506	1-249-423-11	CARBON 3.3K 5% 1/4W		C512	1-102-212-00	CERAMIC 820PF 10% 500V	
R1507	1-249-410-11	CARBON 270 5% 1/4W		C513	1-102-212-00	CERAMIC 820PF 10% 500V	
R1508	1-249-437-11	CARBON 47K 5% 1/4W		C514	1-102-244-00	CERAMIC 220PF 10% 500V	
R1509	1-249-429-11	CARBON 10K 5% 1/4W		C515	1-137-416-11	FILM 0.01MF 10% 100V	
R1510	1-215-461-00	METAL 47K 1% 1/4W		C517	1-162-116-00	CERAMIC 680PF 10% 2KV	
R1511	1-216-379-11	METAL OXIDE 6.8 5% 2W	F	C518	1-162-116-00	CERAMIC 680PF 10% 2KV	
R1513	1-249-423-11	CARBON 3.3K 5% 1/4W		C519 Δ	1-104-771-11	FILM 0.02MF 3% 2KV	
R1514	1-247-885-00	CARBON 180K 5% 1/4W		C520 Δ	1-162-134-91	CERAMIC 470PF 10% 2KV	
R1515	1-215-905-11	METAL OXIDE 10 5% 3W	F	C521 Δ	1-136-316-51	FILM 0.056MF 5% 630V	
R1519	1-249-417-11	CARBON 1K 5% 1/4W		C522	1-106-383-00	MYLAR 0.047MF 99% 200V	
R1520	1-249-417-11	CARBON 1K 5% 1/4W		C523	1-102-002-00	CERAMIC 680PF 10% 500V	
R1522	1-249-417-11	CARBON 1K 5% 1/4W		C524	1-102-212-00	CERAMIC 820PF 10% 500V	
R1527	1-249-417-11	CARBON 1K 5% 1/4W	F	C525	1-124-902-00	ELECT 0.47MF 20% 50V	
R1528	1-249-438-11	CARBON 56K 5% 1/4W		C526	1-106-395-00	MYLAR 0.15MF 10% 200V	
R1529	1-249-434-11	CARBON 27K 5% 1/4W		C527	1-124-341-00	ELECT 1MF 20% 200V	
R1530	1-249-432-11	CARBON 18K 5% 1/4W		C528	1-136-113-00	FILM 2MF 5% 200V	
R1533	1-249-427-11	CARBON 6.8K 5% 1/4W		C529	1-137-410-11	FILM 0.001MF 10% 100V	
R1534	1-249-424-11	CARBON 3.9K 5% 1/4W		C530	1-104-844-11	FILM 0.62MF 5% 200V	
R1535	1-249-425-11	CARBON 4.7K 5% 1/4W		C531	1-104-664-11	ELECT 47MF 20% 25V	
R1536	1-215-857-11	METAL OXIDE 10 5% 1W	F	C532	1-136-165-00	FILM 0.1MF 5% 50V	
R1537	1-249-404-00	CARBON 82 5% 1/4W		C533	1-124-927-11	ELECT 4.7MF 20% 50V	
R1538	1-216-379-11	METAL OXIDE 6.8 5% 2W	F	C534	1-136-161-00	FILM 0.047MF 5% 50V	
R1541	1-249-441-11	CARBON 100K 5% 1/4W		C535	1-126-969-11	ELECT 220MF 20% 50V	
R1543	1-249-414-11	CARBON 560 5% 1/4W		C536	1-137-398-11	FILM 0.068MF 10% 100V	
R1546	1-215-885-00	METAL OXIDE 68 5% 2W	F	C537	1-126-964-11	ELECT 10MF 20% 50V	
R1552	1-249-426-11	CARBON 5.6K 5% 1/4W		C538	1-136-161-00	FILM 0.047MF 5% 50V	
R1554	1-249-393-11	CARBON 10 5% 1/4W		C540	1-137-366-11	FILM 0.0022MF 5% 50V	
R1556	1-249-438-11	CARBON 56K 5% 1/4W		C541	1-137-366-11	FILM 0.0022MF 5% 50V	
R1559	1-249-429-11	CARBON 10K 5% 1/4W		C542	1-130-481-00	FILM 0.0068MF 5% 50V	
R1564	1-249-435-11	CARBON 33K 5% 1/4W		C545	1-124-927-11	ELECT 4.7MF 20% 50V	
R1568	1-247-891-00	CARBON 330K 5% 1/4W		C547	1-164-079-11	CERAMIC 330PF 10% 50V	
R1569	1-249-413-11	CARBON 470 5% 1/4W		C548 Δ	1-162-116-91	CERAMIC 680PF 10% 2KV	
				C550	1-106-387-00	MYLAR 0.068MF 10% 200V	
				C553	1-164-079-11	CERAMIC 330PF 10% 50V	

D

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 specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C561	1-162-815-11	CERAMIC	47PF 5% 500V	C2215	1-136-169-00	FILM	0.22MF 5% 50V
C595	1-123-932-00	ELECT	4.7MF 20% 160V	C2216	1-126-941-11	ELECT	470MF 20% 25V
C598	1-124-342-00	ELECT	3.3MF 20% 160V	C2217	1-136-169-00	FILM	0.22MF 5% 50V
C600	1-126-964-11	ELECT	10MF 20% 50V	C2218	1-124-557-11	ELECT	1000MF 20% 25V
C601	Δ 1-136-311-51	FILM	0.47MF 20% 125V (KV-27V10/27V15/29V10M/32V15)	C2219	1-124-557-11	ELECT	1000MF 20% 25V
	Δ 1-136-511-61	FILM	0.47MF 20% 300V (KV-29V10C)	C2220	1-124-925-11	ELECT	2.2MF 20% 50V
C602	Δ 1-136-311-51	FILM	0.47MF 20% 125V (KV-27V10/27V15/29V10M/32V15)	<CONNECTOR>			
C603	Δ 1-136-311-51	FILM	0.47MF 20% 125V (KV-27V10/27V15/29V10M/32V15)	CN104	1-573-979-21	CONNECTOR, BOARD TO BOARD 11P	
C604	Δ 1-162-578-81	CERAMIC	0.0047MF 20% 400V	CN107	*1-580-798-11	CONNECTOR PIN (DEFLECTION YOKE) 6P	
C607	1-125-489-00	ELECT	560MF 20% 250V (KV-29V10C)	CN108	1-573-296-21	CONNECTOR, BOARD TO BOARD 10P (KV-32V15)	
	1-125-495-11	ELECT	470MF 20% 200V (KV-27V10/27V15/29V10M/32V15)	CN109	1-573-296-21	CONNECTOR, BOARD TO BOARD 10P (KV-32V15)	
C608	1-125-489-00	ELECT	560MF 20% 250V (KV-29V10C)	CN113	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
	1-125-495-11	ELECT	470MF 20% 200V (KV-27V10/27V15/29V10M/32V15)	CN114	*1-580-843-11	PIN, CONNECTOR (POWER)	
C609	1-136-169-00	FILM	0.22MF 5% 50V	CN115	1-573-298-21	CONNECTOR, BOARD TO BOARD 20P	
C610	1-136-169-00	FILM	0.22MF 5% 50V	CN116	*1-691-915-11	CONNECTOR, BOARD TO BOARD 15P	
C611	1-136-169-00	FILM	0.22MF 5% 50V	CN117	1-573-978-21	CONNECTOR, BOARD TO BOARD 11P	
C612	1-136-169-00	FILM	0.22MF 5% 50V	<DIODE>			
C613	1-164-625-11	CERAMIC	680PF 10% 500V	D501	8-719-028-71	DIODE ES1F-LF-G2	
C614	1-164-625-11	CERAMIC	680PF 10% 500V	D502	8-719-979-85	DIODE EGP20G	
C616	1-126-964-11	ELECT	10MF 20% 50V	D503	8-719-979-85	DIODE EGP20G	
C617	1-126-953-11	ELECT	2200MF 20% 35V	D504	Δ 8-719-302-44	DIODE EL1Z-V1	
C618	1-124-557-11	ELECT	1000MF 20% 25V	D505	8-719-302-43	DIODE EL1Z	
C619	1-126-952-11	ELECT	1000MF 20% 16V	D506	8-719-945-80	DIODE ERC06-15S	
C620	1-164-644-11	CERAMIC	330PF 10% 500V	D507	8-719-945-80	DIODE ERC06-15S	
C621	1-126-356-11	ELECT	220MF 20% 160V	D508	8-719-900-26	DIODE ERD29-08J	
C623	1-162-117-00	CERAMIC	100PF 10% 500V	D509	8-719-302-43	DIODE EL1Z	
C624	1-136-155-00	FILM	0.015MF 5% 50V	D510	8-719-936-82	DIODE GP08DPKG3	
C625	1-129-719-00	FILM	0.027MF 10% 400V	D511	8-719-936-82	DIODE GP08DPKG3	
C626	1-104-665-11	ELECT	100MF 20% 25V	D512	8-719-109-84	DIODE RD5.1ESB1	
C628	1-161-740-00	CERAMIC	470PF 10% 400V (KV-29V10C)	D513	8-719-936-82	DIODE GP08DPKG3	
C629	1-108-700-11	MYLAR	470PF 10% 400V (KV-29V10C)	D514	8-719-911-19	DIODE 1SS119	
C630	1-136-165-00	FILM	0.1MF 5% 50V (KV-29V10C)	D515	8-719-911-19	DIODE 1SS119	
C632	1-126-406-11	ELECT	2.2MF 20% 400V (KV-29V10C)	D601	8-719-911-19	DIODE 1SS119	
C633	1-126-933-11	ELECT	100MF 20% 16V (KV-29V10C)	D602	Δ 8-719-510-63	DIODE D4SB60L-F	
C634	1-165-127-11	CERAMIC	470PF 10% 500V	D603	8-719-500-69	DIODE S3V10SS	
C635	1-124-126-00	ELECT	47MF 20% 16V	D605	8-719-500-69	DIODE S3V10SS	
C636	1-137-374-11	FILM	0.047MF 5% 50V	D607	8-719-510-02	DIODE D1NS4	
C637	1-124-916-11	ELECT	22MF 20% 25V	D608	8-719-510-02	DIODE D1NS4	
C639	1-161-740-00	CERAMIC	470PF 10% 400V (KV-27V10/27V15/29V10M/32V15)	D609	8-719-510-02	DIODE D1NS4	
C641	1-126-933-11	ELECT	100MF 20% 10V	D610	8-719-510-02	DIODE D1NS4	
C642	1-137-217-11	FILM	0.01MF 5% 0	D611	8-719-510-02	DIODE D1NS4	
C643	1-137-218-11	FILM	0.012MF 5% 0	D612	8-719-031-79	DIODE D5SC4M	
C645	1-102-125-00	CERAMIC	0.0047MF 10% 50V	D613	8-719-022-97	DIODE D2S4MF	
C646	1-126-933-11	ELECT	100MF 20% 16V	D614	8-719-110-33	DIODE RD12ESB3	
C647	1-124-916-11	ELECT	22MF 20% 25V	D615	8-719-027-43	DIODE S2L20UF	
C684	1-124-667-11	ELECT	10MF 20% 50V	D616	8-719-027-43	DIODE S2L20UF	
C695	1-126-964-11	ELECT	10MF 20% 50V	D617	8-719-027-43	DIODE S2L20UF	
C2205	1-124-925-11	ELECT	2.2MF 20% 50V	D618	8-719-027-43	DIODE S2L20UF	
C2208	1-124-925-11	ELECT	2.2MF 20% 50V	D619	8-719-510-02	DIODE D1NS4	
C2210	1-104-666-11	ELECT	220MF 20% 25V	D621	8-719-028-72	DIODE RGP02-17EL-6433 (KV-29V10C)	
C2211	1-104-664-11	ELECT	47MF 20% 25V	D622	8-719-911-19	DIODE 1SS119	
				D623	8-719-911-19	DIODE 1SS119	
				D624	8-719-911-19	DIODE 1SS119	
				D626	8-719-510-48	DIODE D1N20R	
				D627	8-719-510-48	DIODE D1N20R	
				D628	8-719-911-19	DIODE 1SS119	
				D633	8-719-110-09	DIODE RD8.2ESB3	
				D634	8-719-911-19	DIODE 1SS119	
				D635	8-719-911-19	DIODE 1SS119	
				D636	8-719-510-48	DIODE D1N20R	
				D637	8-719-911-19	DIODE 1SS119	
C2212	1-104-666-11	ELECT	220MF 20% 25V				
C2213	1-136-173-00	FILM	0.47MF 5% 50V				

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KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y117 RM-Y121
RM-CM101

D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
D638	8-719-911-19	DIODE 1SS119		Q604	8-729-119-78	TRANSISTOR 2SC2785-HFE	
		<FUSE>		Q605	8-729-119-78	TRANSISTOR 2SC2785-HFE	
F601	Δ 1-572-506-51	FUSE 6.3A/250V (KV-29V10C)		Q611	8-729-119-78	TRANSISTOR 2SC2785-HFE	
	Δ 1-576-193-11	FUSE 6.3A/125V		Q613	8-729-924-90	TRANSISTOR 2SB1370-EF	
		(KV-27V10/27V15/29V10M/32V15)		Q614	8-729-119-78	TRANSISTOR 2SC2785-HFE	
	1-533-223-11	CLIP, FUSE; F601		Q2202	8-729-119-78	TRANSISTOR 2SC2785-HFE	
		<FERRITE BEAD>		Q2203	8-729-119-76	TRANSISTOR 2SA1175-HFE	
FB501	1-412-911-11	INDUCTOR, FERRITE BEAD				<RESISTOR>	
FB502	1-412-911-11	INDUCTOR, FERRITE BEAD		JR624	1-216-359-00	METAL OXIDE 6.8 5% 1W F	(KV-29V10C)
FB601	1-412-911-11	INDUCTOR, FERRITE BEAD		R501	1-249-444-11	CARBON 0.56 5% 1/4W F	
FB602	1-412-911-11	INDUCTOR, FERRITE BEAD		R503	1-215-862-11	METAL OXIDE 68 5% 1W F	
FB603	1-412-911-11	INDUCTOR, FERRITE BEAD		R504	1-215-872-11	METAL OXIDE 3.3K 5% 1W F	
FB604	1-412-911-11	INDUCTOR, FERRITE BEAD		R505	1-249-443-11	CARBON 0.47 5% 1/4W F	
FB605	1-412-911-11	INDUCTOR, FERRITE BEAD		R506	1-215-886-11	METAL OXIDE 100 5% 2W F	
FB606	1-412-911-11	INDUCTOR, FERRITE BEAD		R507	1-249-429-11	CARBON 10K 5% 1/4W	
FB613	1-412-911-11	INDUCTOR, FERRITE BEAD		R508	1-249-425-11	CARBON 4.7K 5% 1/4W	
FB614	1-412-911-11	INDUCTOR, FERRITE BEAD		R509	1-249-389-11	CARBON 4.7 5% 1/4W F	
		<IC>		R511	Δ	CARBON 1/4W	
IC501	8-759-980-58	IC TDA8172		R512	1-249-389-11	CARBON 4.7 5% 1/4W F	
IC504	8-759-103-93	IC UPC393C		R513	1-216-385-11	METAL OXIDE 0.47 5% 3W F	
IC601	Δ 1-810-051-11	POWER MODULE DM-48		R514	1-249-429-11	CARBON 10K 5% 1/4W	
IC603	8-749-923-94	IC STR81159A (KV-29V10C)		R515	1-216-363-00	METAL OXIDE 0.33 5% 2W F	
IC604	8-759-924-12	IC LM7805CT		R516	1-249-401-11	CARBON 47 5% 1/4W	
IC605	8-759-701-79	IC NJM7812FA		R517	1-215-916-00	METAL OXIDE 680 5% 3W F	
IC606	8-759-701-59	IC NJM78M09FA		R518	1-215-916-00	METAL OXIDE 680 5% 3W F	
IC610	8-759-708-05	IC NJM78L05A		R519	1-249-426-11	CARBON 5.6K 5% 1/4W F	
IC2200	8-759-980-43	IC TDA2009A		R520	1-249-423-11	CARBON 3.3K 5% 1/4W	
		<COIL>		R521	1-249-411-11	CARBON 330 5% 1/4W	
L502	1-421-465-00	COIL, FERRITE CHOKE 68UH		R522	1-215-886-11	METAL OXIDE 100 5% 2W F	
L503	1-412-524-11	INDUCTOR 8.2UH		R523	1-215-862-11	METAL OXIDE 68 5% 1W F	
L504	1-410-669-31	INDUCTOR 33UH		R524	Δ	CARBON 1/4W	
L505	1-459-104-00	COIL, WITH CORE		R525	1-215-884-11	METAL OXIDE 47 5% 2W F	(KV-27V10/27V15/29V10C/29V10M)
L506	1-422-613-11	COIL, AIR CORE		R526	1-247-887-00	CARBON 220K 5% 1/4W	
L508	1-412-553-11	INDUCTOR 3.3MMH		R527	1-215-861-00	METAL OXIDE 47 5% 1W F	
L509	Δ 1-460-173-21	COIL, HORIZONTAL LINEARITY		R528	1-247-750-11	CARBON 680 5% 1/2W F	
L510	1-406-607-11	COIL, CHOKE 15MMH		R530	1-215-445-00	METAL 10K 1% 1/4W	
L513	1-412-524-11	INDUCTOR 8.2UH		R531	1-247-903-00	CARBON 1M 5% 1/4W	
		<MODULE>		R532	1-215-446-00	METAL 11K 1% 1/4W	
PM501	Δ 1-810-061-11	PROTECTOR MODULE PM-38		R533	1-249-385-11	CARBON 2.2 5% 1/4W F	
		(KV-27V10/27V15/29V10C/29V10M)		R535	1-216-453-00	METAL OXIDE 270 5% 2W F	
PM501	Δ 1-810-061-21	PROTECTOR MODULE PM-39 (KV-32V15)		R536	1-249-389-11	CARBON 4.7 5% 1/4W F	(KV-32V15)
		<IC LINK>		R539	1-215-459-00	METAL 39K 1% 1/4W	
PS2201	Δ 1-532-675-91	LINK, IC 1.5A		R543	1-249-419-11	CARBON 1.5K 5% 1/4W	
		<TRANSISTOR>		R546	1-249-431-11	CARBON 15K 5% 1/4W	
Q502	8-729-119-80	TRANSISTOR 2SC2688-LK		R547	1-247-883-00	CARBON 150K 5% 1/4W	
Q503	8-729-809-29	TRANSISTOR 2SC4159-E		R550	1-215-875-11	METAL OXIDE 10K 5% 1W F	
Q505	8-729-119-78	TRANSISTOR 2SC2785-HFE		R551	1-215-875-11	METAL OXIDE 10K 5% 1W F	
Q591	8-729-016-32	TRANSISTOR 2SC4927-01		R554	1-216-371-00	METAL OXIDE 1.5 5% 2W F	
Q601	8-729-019-51	TRANSISTOR 2SC4834MNP		R556	1-249-411-11	CARBON 330 5% 1/4W	
Q602	8-729-019-51	TRANSISTOR 2SC4834MNP		R557	1-249-415-11	CARBON 680 5% 1/4W F	
Q603	8-729-119-76	TRANSISTOR 2SA1175-HFE		R561	1-249-429-11	CARBON 10K 5% 1/4W	
				R562	1-215-437-00	METAL 4.7K 1% 1/4W	
				R563	1-249-429-11	CARBON 10K 5% 1/4W	
				R564	1-249-433-11	CARBON 22K 5% 1/4W	
				R566	1-249-435-11	CARBON 33K 5% 1/4W	
				R580	1-249-411-11	CARBON 330 5% 1/4W	
				R601	Δ 1-202-888-91	SOLID 2.2M 20% 1/2W	
				R602	Δ 1-202-888-91	SOLID 2.2M 20% 1/2W	
						(KV-27V10/27V15/29V10M/32V15)	
				Δ 1-247-289-11	CARBON 8.2M 5% 1W	(KV-29V10C)	

- The components identified by \boxtimes in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

D

Les composants identifiés par
une trame et une marque Δ
sont critiques pour la sécurité.
Ne les remplacer que par une
pièce portant le numéro spécifique.

The components identified by
shading and mark Δ are critical
for safety.
Replace only with part number
specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R603	1-249-419-11	CARBON	1.5K 5% 1/4W	R691	1-249-423-11	CARBON	3.3K 5% 1/4W
R605	1-247-893-11	CARBON	390K 5% 1/4W	R692	1-216-341-11	METAL OXIDE	0.22 5% 1W F
R606	1-247-893-11	CARBON	390K 5% 1/4W	R693	1-216-389-11	METAL OXIDE	1 5% 3W F
R607 Δ	1-202-933-61	FUSIBLE	0.1 10% 1/2W F	R699	1-216-492-11	METAL OXIDE	82K 5% 3W F
R608	1-215-860-11	METAL OXIDE	33 5% 1W F	R2209	1-249-427-11	CARBON	6.8K 5% 1/4W
R609	1-216-369-00	METAL OXIDE	1 5% 2W F	R2210	1-249-435-11	CARBON	33K 5% 1/4W
R610	1-216-369-00	METAL OXIDE	1 5% 2W F	R2211	1-249-427-11	CARBON	6.8K 5% 1/4W
R611	1-216-492-11	METAL OXIDE	82K 5% 3W F	R2212	1-249-435-11	CARBON	33K 5% 1/4W
R613	1-215-883-11	METAL OXIDE	33 5% 2W F	R2215	1-249-425-11	CARBON	4.7K 5% 1/4W
R614	1-215-883-11	METAL OXIDE	33 5% 2W F	R2216	1-249-437-11	CARBON	47K 5% 1/4W
R615	1-249-421-11	CARBON	2.2K 5% 1/4W	R2217	1-249-435-11	CARBON	33K 5% 1/4W
R616	1-249-417-11	CARBON	1K 5% 1/4W	R2218	1-249-441-11	CARBON	100K 5% 1/4W
R617	1-249-377-11	CARBON	0.47 5% 1/4W F	R2219	1-249-413-11	CARBON	470 5% 1/4W
R618	1-249-377-11	CARBON	0.47 5% 1/4W F	R2220	1-249-430-11	CARBON	12K 5% 1/4W
R619	1-249-377-11	CARBON	0.47 5% 1/4W F	R2221	1-249-430-11	CARBON	12K 5% 1/4W
R621	1-249-377-11	CARBON	0.47 5% 1/4W F	R2222	1-249-398-11	CARBON	27 5% 1/4W
R622	1-249-377-11	CARBON	0.47 5% 1/4W F	R2223	1-249-418-11	CARBON	1.2K 5% 1/4W
R623	1-249-377-11	CARBON	0.47 5% 1/4W F	R2224	1-249-418-11	CARBON	1.2K 5% 1/4W
R624	1-249-377-11	CARBON	0.47 5% 1/4W F	R2225	1-249-398-11	CARBON	27 5% 1/4W
R625	1-249-377-11	CARBON	0.47 5% 1/4W F	R2226	1-249-385-11	CARBON	2.2 5% 1/4W F
R627	1-249-377-11	CARBON	0.47 5% 1/4W F	R2227	1-249-385-11	CARBON	2.2 5% 1/4W F
R628	1-249-377-11	CARBON	0.47 5% 1/4W F	R2228	1-249-421-11	CARBON	2.2K 5% 1/4W
R629	1-249-388-11	CARBON	3.9 5% 1/4W F	R2229	1-249-421-11	CARBON	2.2K 5% 1/4W
R630	1-215-857-11	METAL OXIDE	10 5% 1W F	<RELAY>			
R632	1-249-417-11	CARBON	1K 5% 1/4W F	RY601 Δ	1-515-684-31	RELAY	
R633	1-249-405-11	CARBON	100 5% 1/4W F	RY602	1-515-684-31	RELAY	
R635	1-249-413-11	CARBON	470 5% 1/4W F	<SWITCH>			
R636	1-249-383-11	CARBON	1.5 5% 1/4W F	S501	1-572-707-11	SWITCH, LEVER	
R637	1-249-421-11	CARBON	2.2K 5% 1/4W	S502	1-572-707-11	SWITCH, LEVER	
R638	1-249-423-11	CARBON	3.3K 5% 1/4W	<TRANSFORMER>			
R639	1-249-423-11	CARBON	3.3K 5% 1/4W	T501 Δ	1-453-416-11	TRANSFORMER ASSY, FLYBACK (NX-2604A3)	
R640 Δ	1-202-893-91	SOLID	8.2M 20% 1/2W	T502 Δ	1-437-195-14	TRANSFORMER, HORIZONTAL DRIVE	
R641	1-249-455-11	CARBON	4.7K 5% 1/4W F (KV-29V10C)	T503 Δ	1-424-545-22	TRANSFORMER, FERRITE (PMT)	
R642	1-249-451-11	CARBON	2.2K 5% 1/4W F (KV-29V10C)	T601 Δ	1-423-593-11	TRANSFORMER, LINE FILTER (LFT)	
R643	1-216-379-11	METAL OXIDE	6.8 5% 2W F	T602 Δ	1-424-220-21	TRANSFORMER, LINE FILTER	
R644 Δ	1-212-853-61	FUSIBLE	6.8 5% 1/4W F	T603 Δ	1-423-563-11	TRANSFORMER, CONVERTER DRIVE	
R645	1-249-377-11	CARBON	0.47 5% 1/4W F	T604 Δ	1-423-615-11	TRANSFORMER, CONVERTER (PIT)	
R646	1-249-429-11	CARBON	10K 5% 1/4W	T605 Δ	1-423-582-21	TRANSFORMER, FERRITE (SBT)	
R647	1-249-433-11	CARBON	22K 5% 1/4W	Δ 1-426-669-11 TRANSFORMER, CONVERTER (SBT) (KV-27V10/29V10C/29V10M/32V15)			
R648	1-249-414-11	CARBON	560 5% 1/4W	<THERMISTOR>			
R649	1-216-431-11	METAL OXIDE	560 5% 1W F	THP601 Δ	1-809-827-21	THERMISTOR, POSITIVE (KV-29V10C)	
R650	1-249-405-11	CARBON	100 5% 1/4W F	Δ 1-809-539-21 THERMISTOR, POSITIVE (KV-27V10/27V15/29V10M/32V15)			
R653	1-249-381-11	CARBON	1 5% 1/4W	<VARISTOR>			
R654	1-216-385-11	METAL OXIDE	0.47 5% 3W F	VDR601	1-807-288-11	VARISTOR	
R655	1-249-417-11	CARBON	1K 5% 1/4W F	VDR602	1-810-053-11	VARISTOR	
R656	1-249-381-11	CARBON	1 5% 1/4W	VDR603	1-810-053-11	VARISTOR	
R657	1-249-417-11	CARBON	1K 5% 1/4W	*****			
R658	1-249-389-11	CARBON	4.7 5% 1/4W F				
R659	1-247-883-00	CARBON	150K 5% 1/4W				
R660	1-249-433-11	CARBON	22K 5% 1/4W				
R661	1-249-406-11	CARBON	120 5% 1/4W				
R663	1-247-737-11	CARBON	68 5% 1/2W F				
R683	1-205-998-11	WIREWOUND	1 5% 1/4W F (KV-29V10C)				
R684	1-205-998-11	WIREWOUND	1 5% 1/4W F (KV-29V10C)				
R687	1-216-359-00	METAL OXIDE	6.8 5% 1W F (KV-27V10/27V15/29V10M/32V15)				
R688	1-215-861-00	METAL OXIDE	47 5% 1W (KV-27V15/32V15)				
R690	1-249-423-11	CARBON	3.3K 5% 1/4W				

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

KV-27V10/27V15
RM-Y117 RM-Y121/RM-CM101
KV-29V10C/29V10M/32V15
RM-Y117 RM-Y117 RM-Y121
RM-CM101

H L Z (KV-27V15/32V15)

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	*1-646-717-11	H BOARD *****			S1007 Δ 1-692-431-21	SWITCH, TACTILE	
		<CAPACITOR>				*****	
					*1-651-245-11	L BOARD *****	
						<CAPACITOR>	
C1001	1-124-248-00	ELECT 22MF	20% 25V	C1902	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C1002	1-126-160-11	ELECT 1MF	20% 50V			<CONNECTOR>	
C1003	1-126-160-11	ELECT 1MF	20% 50V	CN1903*1-564-518-11	PLUG, CONNECTOR 3P		
C1004	1-124-584-00	ELECT 100MF	20% 10V			<IC>	
C1005	1-164-005-11	CERAMIC CHIP 0.47MF	25V	IC1903 8-759-189-86	IC IS455J		
		<CONNECTOR>				<RESISTOR>	
CN154	*1-564-520-11	PLUG, CONNECTOR 5P		R1901	1-216-133-00	METAL GLAZE 3.3M 5%	1/10W
CN155	1-564-524-11	PLUG, CONNECTOR 9P		R1902	1-216-025-00	METAL GLAZE 100 5%	1/10W
CN156	*1-564-518-11	PLUG, CONNECTOR 3P				*****	
		<DIODE>			A-1390-411-A	Z BOARD, COMPLETE (KV-27V15/32V15) *****	
D1004	1-810-039-31	LED UNIT				<CAPACITOR>	
		<IC>		C901	1-124-903-11	ELECT 1MF	20% 50V
IC1001	8-741-100-62	IC SBX1618-51		C902	1-124-903-11	ELECT 1MF	20% 50V
		<JACK>		C933	1-126-964-11	ELECT 10MF	20% 50V
J1001	1-695-585-11	JACK BLOCK, PIN (L TYPE) 3P		C934	1-126-964-11	ELECT 10MF	20% 50V
		<TRANSISTOR>				<CONNECTOR>	
Q1001	8-729-216-22	TRANSISTOR 2SA1162-G		CN901	*1-564-520-11	PLUG, CONNECTOR 5P	
Q1002	8-729-422-27	TRANSISTOR 2SD601A-Q		CN905	1-564-517-11	PLUG, CONNECTOR 2P	
Q1003	8-729-422-27	TRANSISTOR 2SD601A-Q				<DIODE>	
		<RESISTOR>		D901	8-719-121-24	DIODE RD9.1ESL	
R1001	1-247-804-11	CARBON 75 5%	1/4W	D902	8-719-404-46	DIODE MA110	
R1002	1-249-425-11	CARBON 4.7K 5%	1/4W	D903	8-719-404-46	DIODE MA110	
R1003	1-216-113-00	METAL GLAZE 470K 5%	1/10W	D904	8-719-109-93	DIODE RD6.2ESB2	
R1004	1-249-425-11	CARBON 4.7K 5%	1/4W	D905	8-719-109-66	DIODE RD3.3ESB2	
R1005	1-216-113-00	METAL GLAZE 470K 5%	1/10W				
R1007	1-216-073-00	METAL GLAZE 10K 5%	1/10W	D906	8-719-121-24	DIODE RD9.1ESL	
R1008	1-216-025-00	METAL GLAZE 100 5%	1/10W	D907	8-719-404-46	DIODE MA110	
R1009	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	D908	8-719-404-46	DIODE MA110	
R1010	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W	D909	8-719-404-46	DIODE MA110	
R1011	1-216-025-00	METAL GLAZE 100 5%	1/10W	D910	8-719-404-46	DIODE MA110	
R1012	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R1014	1-216-047-00	METAL GLAZE 820 5%	1/10W	D911	8-719-404-46	DIODE MA110	
R1015	1-216-033-00	METAL GLAZE 220 5%	1/10W	D912	8-719-404-46	DIODE MA110	
R1016	1-216-033-00	METAL GLAZE 220 5%	1/10W	D920	8-719-404-46	DIODE MA110	
R1017	1-216-105-00	METAL GLAZE 220K 5%	1/10W			<JACK>	
R1018	1-216-089-91	METAL GLAZE 47K 5%	1/10W	J901	1-764-873-11	JACK	
R1019	1-216-025-00	METAL GLAZE 100 5%	1/10W	J902	1-764-874-11	JACK	
R1021	1-216-045-00	METAL GLAZE 680 5%	1/10W			<TRANSISTOR>	
		<SWITCH>		Q901	8-729-422-27	TRANSISTOR 2SD601A-Q	
S1001	1-692-431-21	SWITCH, TACTILE					
S1002	1-692-431-21	SWITCH, TACTILE					
S1003	1-692-431-21	SWITCH, TACTILE					
S1004	1-692-431-21	SWITCH, TACTILE					
S1005	1-692-431-21	SWITCH, TACTILE					
S1006	1-692-431-21	SWITCH, TACTILE					

Z (KV-27V15/32V15)

UA

REF.NO.	PART NO.	DESCRIPTION	REMARK		
Q902	8-729-216-22	TRANSISTOR 2SA1162-G			
Q903	8-729-216-22	TRANSISTOR 2SA1162-G			
Q904	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q905	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q906	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q907	8-729-216-22	TRANSISTOR 2SA1162-G			
Q908	8-729-216-22	TRANSISTOR 2SA1162-G			
Q909	8-729-216-22	TRANSISTOR 2SA1162-G			
Q910	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q911	8-729-140-93	TRANSISTOR 2SB733-34			
Q912	8-729-216-22	TRANSISTOR 2SA1162-G			
<RESISTOR>					
JR901	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR902	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR903	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR907	1-216-295-00	METAL GLAZE	0	5%	1/10W
R901	1-249-405-11	CARBON	100	5%	1/4W F
R902	1-216-033-00	METAL GLAZE	220	5%	1/10W
R903	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R904	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R905	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R906	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R907	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R908	1-216-005-00	METAL GLAZE	15	5%	1/10W
R909	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R910	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R911	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R912	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R913	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R914	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R915	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R916	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R917	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R918	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R919	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R921	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R922	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R923	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R924	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R925	1-216-041-00	METAL GLAZE	470	5%	1/10W
R926	1-216-025-00	METAL GLAZE	100	5%	1/10W
R927	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R928	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R929	1-249-405-11	CARBON	100	5%	1/4W F
R935	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R936	1-216-089-91	METAL GLAZE	47K	5%	1/10W

*A-1394-527-A	UA BOARD, COMPLETE(KV-27V15)				

*A-1394-529-A	UA BOARD, COMPLETE(KV-32V15)				

*A-1394-552-A	UA BOARD, COMPLETE				

	(KV-27V10/29V10C/29V10M)				
<CAPACITOR>					
C401	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C402	1-124-916-11	ELECT	22MF	20%	25V
C405	1-124-916-11	ELECT	22MF	20%	25V
C406	1-124-903-11	ELECT	1MF	20%	50V
C407	1-124-903-11	ELECT	1MF	20%	50V

REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
	C408	1-124-916-11	ELECT	22MF 20% 25V
	C409	1-124-903-11	ELECT	1MF 20% 50V
	C410	1-124-903-11	ELECT	1MF 20% 50V
	C411	1-104-665-11	ELECT	100MF 20% 50V (KV-27V10/29V10C/29V10M)
	C412	1-124-916-11	ELECT	22MF 20% 25V
	C413	1-126-964-11	ELECT	10MF 20% 50V
	C414	1-124-499-11	ELECT	1MF 20% 50V
	C415	1-124-499-11	ELECT	1MF 20% 50V
	C416	1-126-964-11	ELECT	10MF 20% 50V
	C417	1-124-902-00	ELECT	0.47MF 20% 50V
	C418	1-124-902-00	ELECT	0.47MF 20% 50V
	C419	1-124-126-00	ELECT	47MF 20% 16V
	C420	1-163-031-11	CERAMIC CHIP	0.01MF 50V
	C421	1-124-902-00	ELECT	0.47MF 20% 50V (KV-27V10/29V10C/29V10M)
F		1-124-916-11	ELECT	22MF 20% 25V (KV-27V15/32V15)
	C430	1-124-499-11	ELECT	1MF 20% 50V (KV-32V15)
	C431	1-124-499-11	ELECT	1MF 20% 50V (KV-32V15)
	C432	1-124-916-11	ELECT	22MF 20% 25V (KV-32V15)
	C433	1-104-663-11	ELECT	33MF 20% 25V (KV-27V15/32V15)
	C434	1-163-117-00	CERAMIC CHIP	100PF 5% 50V (KV-27V15/32V15)
	C441	1-124-126-00	ELECT	47MF 20% 16V
	C442	1-163-117-00	CERAMIC CHIP	100PF 5% 50V (KV-27V15/32V15)
	C462	1-126-933-11	ELECT	100MF 20% 16V (KV-27V15/32V15)
			<FILTER>	
	CM401	1-467-554-11	FILTER BLOCK, COMB	
			<CONNECTOR>	
	CN141	*1-564-520-11	PLUG, CONNECTOR 5P	
	CN142	1-564-517-11	PLUG, CONNECTOR 2P	(KV-27V15/32V15)
	CN143	1-750-395-11	SOCKET, CONNECTOR 32P	
	CN144	*1-564-521-11	PLUG, CONNECTOR 6P	(KV-32V15)
	CN146	1-573-300-21	CONNECTOR, BOARD TO BOARD 18P	
				(KV-27V15/32V15)
F	CN147	1-750-395-11	SOCKET, CONNECTOR 32P	
	CN148	1-564-517-11	PLUG, CONNECTOR 2P	
	CN149	*1-564-519-11	PLUG, CONNECTOR 4P	(KV-32V15)
*****			<DIODE>	
	D401	8-719-110-17	DIODE RD10ESB2	
	D402	8-719-110-17	DIODE RD10ESB2	
	D403	8-719-110-17	DIODE RD10ESB2	
	D404	8-719-110-17	DIODE RD10ESB2	
C/29V10M)	D405	8-719-110-17	DIODE RD10ESB2	
	D408	8-719-110-17	DIODE RD10ESB2	
	D409	8-719-110-17	DIODE RD10ESB2	
	D410	8-719-110-17	DIODE RD10ESB2	
50V	D411	8-719-110-17	DIODE RD10ESB2	
25V	D429	8-719-110-17	DIODE RD10ESB2	
50V	D430	8-719-110-17	DIODE RD10ESB2	
50V	D431	8-719-110-17	DIODE RD10ESB2	

UA

REF.NO.	PART NO.	DESCRIPTION	REMARK
D436	8-719-110-17	DIODE RD10ESB2 (KV-27V15/32V15)	
D437	8-719-110-17	DIODE RD10ESB2 (KV-27V15/32V15)	
<IC>			
IC401	8-759-637-10	IC M52470AP (KV-27V10/29V10C/29V10M)	
IC402	8-752-067-28	IC CXA1545AS (KV-27V15/32V15)	
IC403	8-759-088-00	IC MM1114XFF (KV-27V10/29V10C/29V10M)	
IC404	8-759-164-18	IC MM1118XFF (KV-27V10/20V10C/29V10M)	
<JACK>			
J401	1-750-515-11	TERMINAL BLOCK, S 3P	
J402	1-750-517-11	JACK BLOCK, PIN 3P	
J404	1-750-516-11	JACK BLOCK, PIN 2P	
<COIL>			
L401	1-410-473-11	INDUCTOR 18UH (KV-27V15/32V15)	
L403	1-410-476-11	INDUCTOR 33UH (KV-27V15/32V15)	
L404	1-410-669-31	INDUCTOR 33UH (KV-27V15/32V15)	
<TRANSISTOR>			
Q401	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q405	8-729-216-22	TRANSISTOR 2SA1162-G	
Q406	8-729-216-22	TRANSISTOR 2SA1162-G	
Q410	8-729-422-27	TRANSISTOR 2SD601A-Q (KV-32V15)	
Q415	8-729-422-27	TRANSISTOR 2SD601A-Q (KV-32V15)	
Q416	8-729-216-22	TRANSISTOR 2SA1162-G (KV-32V15)	
Q417	8-729-216-22	TRANSISTOR 2SA1162-G (KV-32V15)	
Q418	8-729-216-22	TRANSISTOR 2SA1162-G (KV-32V15)	
<RESISTOR>			
JR402	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR408	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR409	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR410	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27V10/29V10C/29V10M)	
JR411	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR412	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR415	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR416	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR418	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR419	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR422	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR423	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27V10/29V10C/29V10M)	
JR424	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27V10/29V10C/29V10M)	
JR428	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR429	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR430	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR431	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR434	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR435	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27V10/29V10C/29V10M)	
JR498	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR499	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR901	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JW454	1-249-429-11	CARBON 10K 5% 1/4W (KV-27V10/29V10C/29V10M)	
JW456	1-249-429-11	CARBON 10K 5% 1/4W (KV-27V10/29V10C/29V10M)	

REF.NO.	PART NO.	DESCRIPTION	REMARK
R401	1-247-804-11	CARBON 75 5% 1/4W	
R402	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R403	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R404	1-247-804-11	CARBON 75 5% 1/4W	
R405	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R406	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R407	1-247-804-11	CARBON 75 5% 1/4W	
R408	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R409	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R410	1-249-425-11	CARBON 4.7K 5% 1/4W	
R411	1-249-425-11	CARBON 4.7K 5% 1/4W	
R412	1-249-425-11	CARBON 4.7K 5% 1/4W	
R413	1-249-425-11	CARBON 4.7K 5% 1/4W	
R414	1-247-804-11	CARBON 75 5% 1/4W	
R415	1-249-425-11	CARBON 4.7K 5% 1/4W	
R416	1-216-647-11	METAL CHIP 680 0.50% 1/10W	
R417	1-216-645-11	METAL CHIP 560 0.50% 1/10W	
R418	1-216-025-00	METAL GLAZE 100 5% 1/10W (KV-27V10/29V10C/29V10M)	
R421	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R425	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R431	1-216-045-00	METAL GLAZE 680 5% 1/10W (KV-27V10/29V10C/29V10M)	
	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-27V15/32V15)	
R432	1-216-045-00	METAL GLAZE 680 5% 1/10W (KV-27V10/29V10C/29V10M)	
	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27V15/32V15)	
R434	1-216-045-00	METAL GLAZE 680 5% 1/10W (KV-27V10/29V10C/29V10M)	
	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-27V15/32V15)	
R435	1-216-045-00	METAL GLAZE 680 5% 1/10W (KV-27V10/29V10C/29V10M)	
	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27V15/32V15)	
R439	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R440	1-216-025-00	METAL GLAZE 100 5% 1/10W (KV-27V10/29V10C/29V10M)	
R441	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R442	1-216-025-00	METAL GLAZE 100 5% 1/10W (KV-27V10/29V10C/29V10M)	
R443	1-216-025-00	METAL GLAZE 100 5% 1/10W (KV-27V10/29V10C/29V10M)	
R444	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R445	1-216-073-00	METAL GLAZE 10K 5% 1/10W (KV-27V15/32V15)	
R446	1-216-073-00	METAL GLAZE 10K 5% 1/10W (KV-27V15/32V15)	
R450	1-216-025-00	METAL GLAZE 100 5% 1/10W (KV-27V10/29V10C/29V10M)	
	1-216-643-11	METAL CHIP 470 0.50% 1/10W (KV-27V15/32V15)	
R451	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W (KV-27V15/32V15)	
R452	1-216-025-00	METAL GLAZE 100 5% 1/10W (KV-32V15)	
R453	1-216-645-11	METAL CHIP 560 0.50% 1/10W (KV-32V15)	
	1-216-653-11	METAL CHIP 1.2K 0.50% 1/10W (KV-27V10/29V10C/29V10M)	
R454	1-216-025-00	METAL GLAZE 100 5% 1/10W (KV-27V10/29V10C/29V10M)	

UA

Les composants identifiés par
 une trame et une marque Δ
 sont critiques pour la sécurité.
 Ne les remplacer que par une
 pièce portant le numéro spécifié.

The components identified by
 shading and mark Δ are critical
 for safety.
 Replace only with part number
 specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-27V15/32V15)	
R456	1-216-041-00	METAL GLAZE 470 5% 1/10W (KV-27V15/32V15)	
R457	1-216-033-00	METAL GLAZE 220 5% 1/10W (KV-27V15/32V15)	
R458	1-216-033-00	METAL GLAZE 220 5% 1/10W (KV-27V15/32V15)	
R459	1-216-081-00	METAL GLAZE 22K 5% 1/10W (KV-32V15)	
R460	1-216-037-00	METAL GLAZE 330 5% 1/10W (KV-32V15)	
R461	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W (KV-32V15)	
R462	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W (KV-32V15)	
R463	1-216-045-00	METAL GLAZE 680 5% 1/10W (KV-32V15)	
R464	1-216-045-00	METAL GLAZE 680 5% 1/10W (KV-32V15)	
R476	1-216-081-00	METAL GLAZE 22K 5% 1/10W (KV-32V15)	
R478	1-216-041-00	METAL GLAZE 470 5% 1/10W (KV-27V15/32V15)	
R479	1-216-081-00	METAL GLAZE 22K 5% 1/10W (KV-32V15)	
R480	1-216-081-00	METAL GLAZE 22K 5% 1/10W (KV-32V15)	
R481	1-216-081-00	METAL GLAZE 22K 5% 1/10W (KV-32V15)	
R482	1-249-417-11	CARBON 1K 5% 1/4W	
R483	1-249-417-11	CARBON 1K 5% 1/4W	
R488	1-216-081-00	METAL GLAZE 22K 5% 1/10W (KV-32V15)	
R489	1-216-081-00	METAL GLAZE 22K 5% 1/10W (KV-32V15)	
R490	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R491	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R492	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R1438	1-216-081-00	METAL GLAZE 22K 5% 1/10W (KV-27V15/32V15)	

MISCELLANEOUS

Δ 1-402-952-12	COIL, DEMAGNETIZATION (KV-32V15)
Δ 1-406-726-22	COIL, DEMAGNETIZATION (KV-27V10/27V15/29V10M)
Δ 1-406-726-41	COIL, DEMAGNETIZATION (KV-29V10C)
1-417-178-11	SELECTOR, ANTENNA (AS-2) (KV-32V15)
1-504-524-11	SPEAKER (8CM)
1-569-007-11	ADAPTER, CONVERSION 2P (KV-29V10C)
1-573-657-11	PLAUG, F-PIN (KV-27V10/27V15/29V10C/29V10M)
Δ 1-751-056-11	CORD, POWER (WITH CONNECTOR) 6A/250V (KV-29V10C)
Δ 1-751-059-11	CORD, POWER (WITH CONNECTOR) 10A/125V (KV-27V10/27V15/29V10M/32V15)
*1-751-135-11	CABLE, PIN (KV-32V15)
*1-751-136-11	CABLE, PIN (KV-32V15)
Δ 8-451-275-42	DEFLECTION YOKE Y28PFA(VTM) (KV-27V10/27V15/29V10C/29V10M)
Δ 8-451-315-41	DEFLECTION YOKE Y34FXA(VTM) (KV-32V15)

REF.NO.	PART NO.	DESCRIPTION	REMARK
V901	Δ 8-733-723-05	PICTURE TUBE (A80JYV50X) (KV-32V15)	
	Δ 8-733-848-05	PICTURE TUBE (A68KZJ50X) (KV-27V10/27V15/29V10C/29V10M)	

ACCESSORIES AND PACKING MATERIALS			

	1-467-626-11	MOUSE, INTERIJEENT CABLE (RM-CM101) (KV-27V15/32V15)	
	1-569-007-11	ADAPTER, CONVERSION 2P (KV-29V10C)	
	3-758-286-21	MANUAL, INSTRUCTION (ENGLISH) (KV-27V10/29V10M)	
	3-758-286-31	MANUAL, INSTRUCTION (FRENCH) (KV-27V10(CND))	
	3-758-286-41	MANUAL, INSTRUCTION (SPANISH) (KV-29V10M)	
	3-758-287-21	MANUAL, INSTRUCTION, CABLE MOUSE (KV-27V15/32V15)	
	3-758-287-31	MANUAL, INSTRUCTION, CABLE MOUSE (KV-27V15(CND)/32V15(CND))	
	3-758-287-41	MANUAL, INSTRUCTION, CABLE MOUSE (KV-27V15(US)/32V15(US))	
	3-758-289-21	MANUAL, INSTRUCTION (ENGLISH) (KV-27V15/32V15)	
	3-758-289-31	MANUAL, INSTRUCTION (FRENCH) (KV-27V15(CND)/32V15(CND))	
	3-758-289-41	MANUAL, INSTRUCTION (SPANISH) (KV-27V15(US)/32V15(US))	
	3-758-336-41	MANUAL, INSTRUCTION (KV-29V10C)	
	3-758-336-51	MANUAL, INSTRUCTION (KV-29V10C)	
	4-043-736-01	FILTER, MOUSE (KV-27V15/32V15)	
	4-043-737-01	HOLDER, FILTER (KV-27V15/32V15)	
	*4-041-255-01	BAG, PROTECTION (KV-27V10/27V15/29V10C/29V10M)	
	*4-041-259-01	BAG, PROTECTION (KV-32V15)	
	*4-043-483-01	INDIVIDUAL CARTON (KV-27V10/27V15/29V10C/29V10M)	
	*4-043-484-01	CUSHION (UPPER) (ASSY) (KV-27V10/27V15/29V10C/29V10M)	
	*4-043-485-01	CUSHION (LOWER) (ASSY) (KV-27V10/27V15/29V10C/29V10M)	
	*4-043-597-01	CUSHION (UPPER) (ASSY) (KV-32V15)	
	*4-043-598-01	CUSHION (LOWER) (ASSY) (KV-32V15)	
	*4-043-599-01	INDIVIDUAL CARTON (KV-32V15)	

REMOTE COMMANDER

1-467-060-13	REMOTE COMMANDER (RM-Y117) (KV-27V10/29V10C/29V10M)
9-903-826-01	COVER, BATTERY (FOR RM-Y117) (KV-27V10/29V10C/29V10M)
1-467-621-11	REMOTE COMMANDER (RM-Y121) (KV-27V15/32V15)
9-907-089-01	COVER, BATTERY (FOR RM-Y121) (KV-27V15/32V15)